CDX-L400X

SERVICE MANUAL

AEP Model
UK Model

Ver 1.0 2001. 12

• The tuner and CD sections have no adjustments.

Model Name Using Similar Mechanism	CDX-L350/L360
CD Drive Mechanism Type	MG-393X-121//Q
Optical Pick-up Name	KSS-720A

SPECIFICATIONS

CD player section

Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	66 dB (stereo), 72 dB (mono)
Harmonic distortion at 1 kHz	0.6% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 279 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	MW: 30 µV LW: 40 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

General

Outputs	Audio outputs Power aerial relay control lead
Inputs	Telephone ATT control lead
Tone controls	Bass ±9 dB at 100 Hz Treble ±9 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 177 mm (w/h/d)
Mounting dimension	Approx. 182 × 53 × 162 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER

9-873-438-01
2001L0400-1
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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

SERVICE NOTES

CLASS 1
LASER PRODUCT

This label is located on the bottom of the chassis.

CAUTION — INVISIBLE LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM OR
VIEW DIRECTLY WITH OPTICAL INSTRUMENTS

This label is located on the drive unit's internal chassis.

When replacing the chassis (T.U) of mechanism deck which have the "CAUTION LABEL" attached, please be sure to put a new LABEL (OP CAUTION) (3-223-913-01) to the chassis (T.U).

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TEST DISCS

This set can playback CD-R and CD-ROM discs. The following test discs should be used to check the capability:

CD-R test disc TCD-R082LMT (Part No. J-2501-063-1)
CD-RW test disc TCD-W082L (Part No. J-2501-063-2)

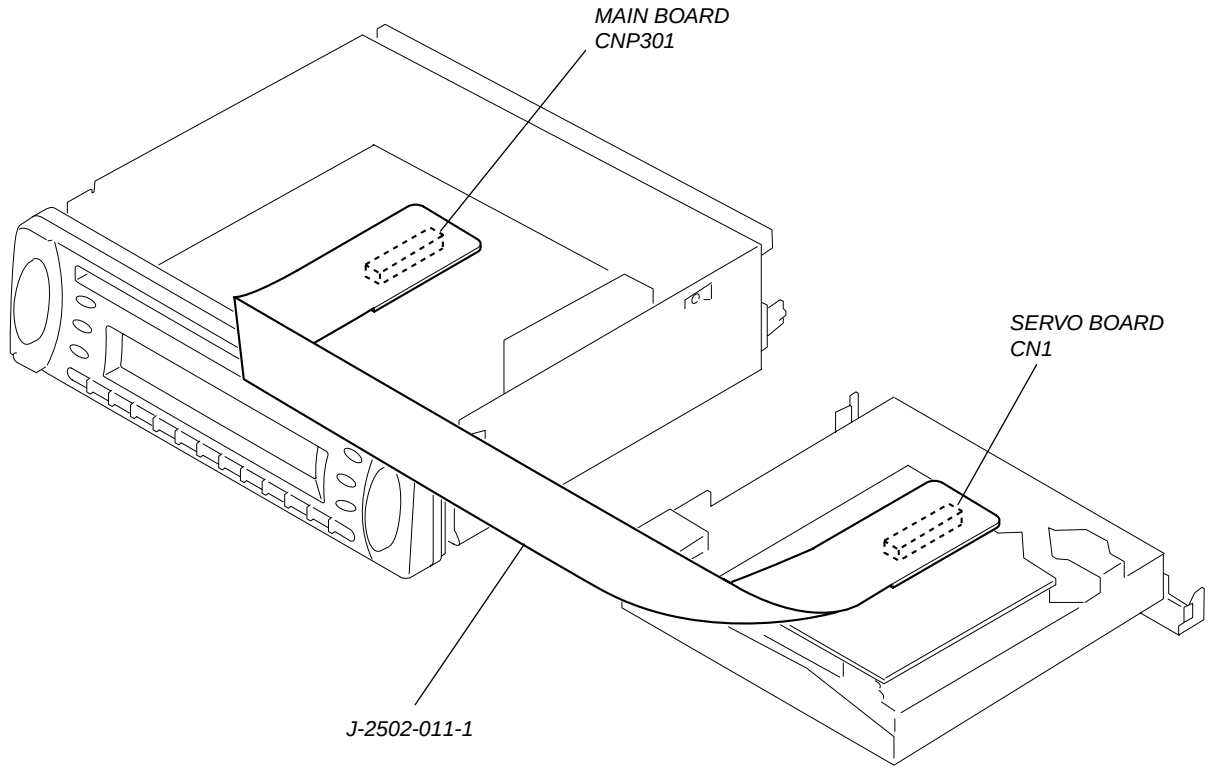
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

EXTENSION CABLE AND SERVICE POSITION

When repairing or servicing this set, connect the jig (extension cable) as shown below.

• Connect the MAIN board (CNP301) and the SERVO board (CN1) with the extension cable (Part No. J-2502-011-1).



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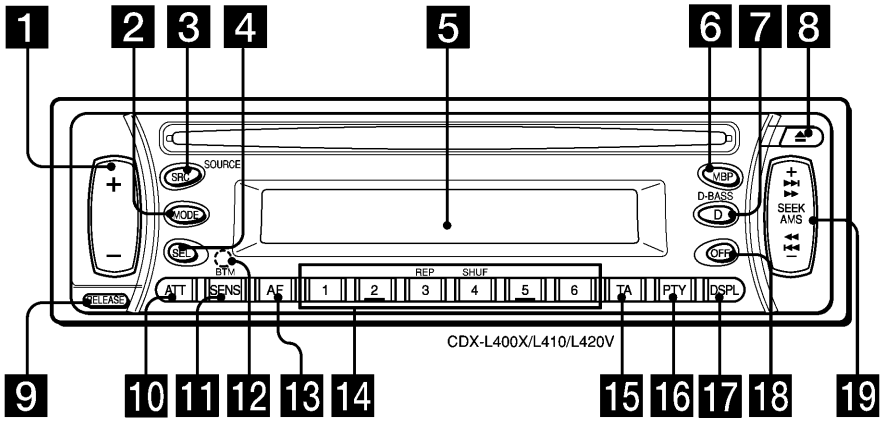
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls

Refer to the pages listed for details.
CD : During playback RADIO : During radio reception



1 **Volume +/– button 8, 13, 17**
2 **MODE button**
RADIO **10, 11, 13**
3 **SRC (SOURCE) (TUNER/CD) button 8, 10, 11, 13**
4 **SEL (select) button 8, 15, 17, 18**
5 **Display window**
6 **MBP (My Best sound Position) button 18**
7 **D (D-BASS) button 18**
8 **⏏ (eject) button 8**
9 **RELEASE (front panel release) button 7**
10 **ATT (attenuate) button 17**
11 **SENS/BTM button 10, 11, 13**
12 **RESET button** (located on the front side of the unit, behind the front panel) **6**
13 **AF button 12, 13**
14 **Number buttons 17**
CD
③ **REP 9**
④ **SHUF 9**
RADIO **10, 11, 12, 13, 15**
15 **TA button 13**
16 **PTY (programme type) button 14**
17 **DSPL (display mode change) button 8, 9, 11**
18 **OFF button* 7, 8**
19 **SEEK/AMS +/– button**
CD **8**
RADIO **10, 11, 12, 14**

* **Warning when installing in a car without an ACC (accessory) position on the ignition key switch**
Be sure to press OFF on the unit for 2 seconds to turn off the clock display after turning off the engine.
Otherwise, the clock display does not turn off and this causes battery drain.

Notes on CD-R/CD-RW discs

- You can play CD-Rs (recordable CDs)/CD-RWs (rewritable CDs) designed for audio use on this unit.
Look for these marks to distinguish CD-Rs/CD-RWs for audio use.

COMPACT disc DIGITAL AUDIO Recordable
COMPACT disc DIGITAL AUDIO ReWritable

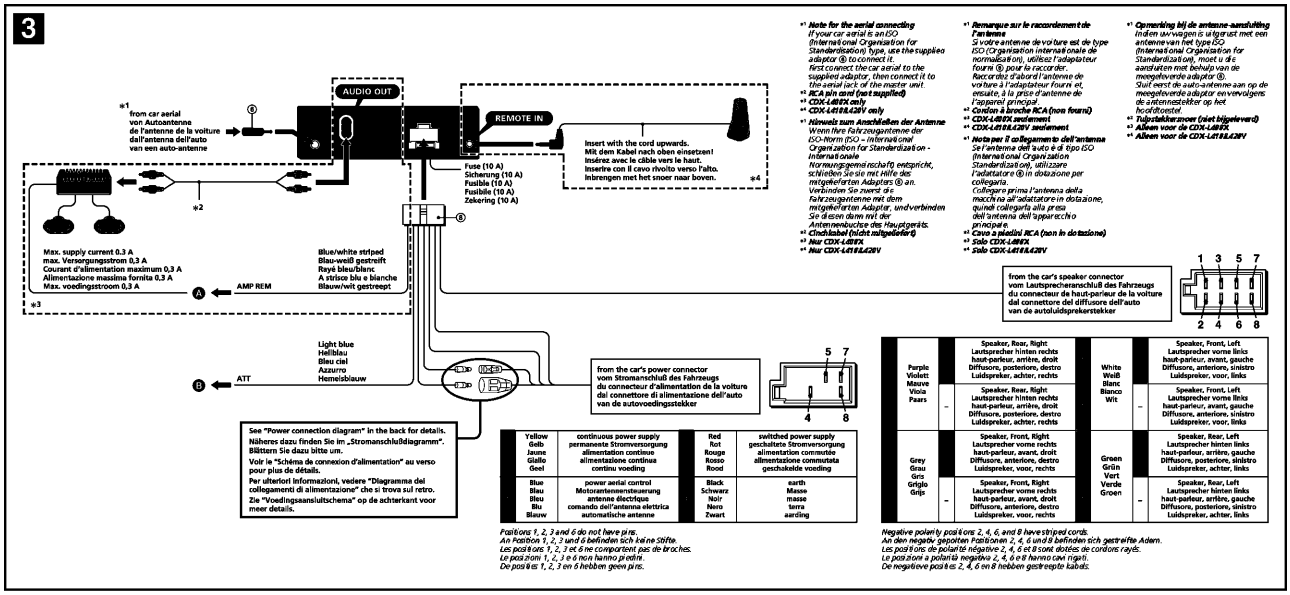
These marks denote that a disc is not for audio use.

COMPACT disc Recordable
COMPACT disc ReWritable

- Some CD-Rs/CD-RWs (depending on the equipment used for its recording or the condition of the disc) may not play on this unit.
- You cannot play a CD-R/CD-RW that is not finalized*.

* *A process necessary for a recorded CD-R/CD-RW disc to be played on the audio CD player.*

Connections


3
AUDIO OUT
REMOTE IN
*1 from car aerial
von Autoantenne
de l'antenne de la voiture
dall'antenna dell'auto
van een auto-antenne
Insert with the cord upwards.
Mit dem Kabel nach oben einsetzen!
Insérez avec le câble vers le haut.
Inserire con il cavo rivolto verso l'alto.
Inbrengen met het snoer naar boven. *4
Fuse (10 A)
Sicherung (10 A)
Fusible (10 A)
Fusible (10 A)
Zekering (10 A)
Max. supply current 0,3 A
max. Versorgungsstrom 0,3 A
Courant d'alimentation maximum 0,3 A
Alimentazione massima fornita 0,3 A
Max. voedingsstroom 0,3 A
AMP REM
*3
Blue/white striped
Blau-weiß gestreift
Rayé bleu/blanc
A strisce blu e bianche
Blauw/wit gestreept
Light blue
Hellblau
Bleu ciel
Azzurro
Hemelsblauw
ATT
See "Power connection diagram" in the back for details.
Näheres dazu finden Sie im „Stromanschlußdiagramm". Blättern Sie dazu bitte um.
Voir le "Schéma de connexion d'alimentation" au verso pour plus de détails.
Per ulteriori informazioni, vedere "Diagramma del collegamento di alimentazione" che si trova sul retro.
Zie "Voedingsaansluitschema" op de achterkant voor meer details.
from the car's power connector
vom Stromanschluß des Fahrzeugs
du connecteur d'alimentation de la voiture
dal connettore di alimentazione dell'auto
van de autovoedingsstekker
from the car's speaker connector
vom Lautsprecheranschluß des Fahrzeugs
du connecteur de haut-parleur de la voiture
dal connettore dell diffusore dell'auto
van de autoluidsprekerstekker
1 3 5 7
2 4 6 8
5 7
4 8
Yellow / Gelb / Jaune / Giallo / Geel — continuous power supply / permanente Stromversorgung / alimentation continue / alimentazione continua / continu voeding
Red / fot / Rouge / Rosso / Rood — switched power supply / geschaltete Stromversorgung / alimentation commutée / alimentazione commutata / geschakelde voeding
Blue / Blau / Bleu / Blu / Blauw — power aerial control / Motorantennensteuerung / antenne électrique / comando dell'antenna elettrica / automatische antenne
Black / Schwarz / Noir / Nero / Zwart — earth / Masse / masse / terra / aarding
Purple / Violett / Mauve / Viola / Paars
White / Weiß / Blanc / Bianco / Wit
Grey / Grau / Gris / Grigio / Grijs
Green / Grün / Vert / Verde / Groen
Speaker, Rear, Right / Lautsprecher hinten rechts / haut-parleur, arrière, droit / Diffusore, posteriore, destro / Luidspreker, achter, rechts
Speaker, Front, Left / Lautsprecher vorne links / haut-parleur, avant, gauche / Diffusore, anteriore, sinistro / Luidspreker, voor, links
Speaker, Front, Right / Lautsprecher vorne rechts / haut-parleur, avant, droit / Diffusore, anteriore, destro / Luidspreker, voor, rechts
Speaker, Rear, Left / Lautsprecher hinten links / haut-parleur, arrière, gauche / Diffusore, posteriore, sinistro / Luidspreker, achter, links
Positions 1, 2, 3 and 6 do not have pins.
An Position 1, 2, 3 und 6 befinden sich keine Stifte.
Les positions 1, 2, 3 et 6 ne comportent pas de broches.
Le posizioni 1, 2, 3 e 6 non hanno piedini.
De posities 1, 2, 3 en 6 hebben geen pins.
Negative polarity positions 2, 4, 6 and 8 have striped cords.
An den negativ gepolten Positionen 2, 4, 6 und 8 befinden sich gestreifte Adern.
Les positions de polarité négative 2, 4, 6 et 8 sont dotées de cordons rayés.
Le posizioni a polarità negativa 2, 4, 6 e 8 hanno cavi rigati.
De negatieve posities 2, 4, 6 en 8 hebben gestreepte kabels.

*1 **Note for the aerial connecting**
If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adaptor Ⓒ to connect it. First connect the car aerial to the supplied adaptor, then connect it to the aerial jack of the master unit.
*2 **RCA pin cord (not supplied)***
*3 **CDX-L400X only***
*4 **CDX-L410&L420V only***

*1 **Hinweis zum Anschließen der Antenne***
Wenn Ihre Fahrzeugantenne der ISO-Norm (ISO = Internationale Organization for Standardization - Internationale Normungsgemeinschaft) entspricht, schließen Sie sie mit Hilfe des mitgelieferten Adapters Ⓒ an. Verbinden Sie zuerst die Fahrzeugantenne mit dem mitgelieferten Adapter, und verbinden Sie dieses dann mit der Antennenbuchse des Hauptgeräts.
*2 **Cinch-kabel (nicht mitgeliefert)***
*3 **Nur CDX-L400X***
*4 **Nur CDX-L410&L420V***

*1 **Remarque sur le raccordement de l'antenne***
Si votre antenne de voiture est de type ISO (Organisation internationale de normalisation), utilisez l'adaptateur fourni Ⓒ pour la raccorder. Raccordez d'abord l'antenne de voiture à l'adaptateur fourni et, ensuite, à la prise d'antenne de l'appareil principal.
*2 **Cordon à broche RCA (non fourni)***
*3 **CDX-L400X seulement***
*4 **CDX-L410&L420V seulement***

*1 **Note per il collegamento dell'antenna***
Se l'antenna dell'auto è di tipo ISO (International Organization Standardization), utilizzare l'adattatore Ⓒ in dotazione per collegarla.
Collegare prima l'antenna della macchina all'adattatore in dotazione, quindi collegarla alla presa dell'antenna dell'apparecchio principale.
*2 **Cavo a piedini RCA (non in dotazione)***
*3 **Solo CDX-L400X***
*4 **Solo CDX-L410&L420V***

*1 **Opmerking bij de antenne-aansluiting***
Indien uw wagen is uitgerust met een antenne van het type ISO (International Organization for Standardization), moet u die aansluiten met behulp van de meegeleverde adaptor Ⓒ. Sluit eerst de auto-antenne aan op de meegeleverde adaptor en vervolgens de antennestekker op het hoofdtoestel.
*2 **Tulpstekkersnoer (niet bijgeleverd)***
*3 **Alleen voor de CDX-L400X***
*4 **Alleen voor de CDX-L410&L420V***

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Do not get the wires under a screw, or caught in moving parts (e.g. seat railing).
- Before making connections, turn the car ignition off to avoid short circuits.
- Connect the power connecting cord Ⓑ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Be sure to insulate any those unconnected wires with electrical tape for safety.

Notes on the power supply cord (yellow)

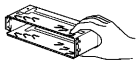
- When connecting this unit in combination with other stereo components, the connected car circuit's rating must be higher than the sum of each component's fuse.
- When no car circuits are rated high enough, connect the unit directly to the battery.

Parts list (1)

The numbers in the list are keyed to those in the instructions.

Caution

Handle the bracket ① carefully to avoid injuring your fingers.



Connection example (2)

Connection diagram (3)

Ⓐ **To AMP REMOTE IN of an optional power amplifier (CDX-L400X only)**
This connection is only for amplifiers. Connecting any other system may damage the unit.

Ⓑ **To the interface cable of a car telephone**

Warning

If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord Ⓑ may damage the aerial.

Notes on the control leads

- *The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency), TA (Traffic Announcement) function.*
- *When your car has built-in FM/MW/LW aerial in the rear/side glass, connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.*
- *A power aerial without a relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.*
- *Do not connect the earth lead of this unit to the negative (-) terminal of the speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Connect only passive speakes. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.*
- *To avoid a malfunction, do not use the built-in speaker wires installed in your car if the unit shares a common negative (-) lead for the right and left speakers.*
- *Do not connect the unit's speaker cords to each other.*

Vorsicht

- Dieses Gerät ist ausschließlich für den Betrieb bei 12 V Gleichstrom (negative Erdung) bestimmt.
- Achten Sie darauf, daß die Kabel nicht unter einer Schraube oder zwischen beweglichen Teilen wie z. B. in einer Sitzschiene eingeklemmt werden.
- Schalten Sie, bevor Sie irgendwelche Anschlüsse vornehmen, die Zündung des Fahrzeugs aus, um Kurzschlüsse zu vermeiden.
- Verbinden Sie das Stromversorgungskabel Ⓑ mit dem Gerät und den Lautsprechern, bevor Sie es mit dem Hilfsstromanschluß verbinden.
- **Schließen Sie alle Erdungskabel an einen gemeinsamen Massepunkt an.**
- Aus Sicherheitsgründen müssen alle losen, nicht angeschlossenen Drähte mit Isolierband abisoliert werden.

Hinweise zum Stromversorgungskabel (gelb)

- Wenn Sie dieses Gerät zusammen mit anderen Stereokomponenten anschließen, muß der Autostromkreis, an den die Geräte angeschlossen sind, eine höhere Leistung aufweisen als die Summe der Sicherungen der einzelnen Komponenten.
- Wenn kein Autostromkreis eine so hohe Leistung aufweist, schließen Sie das Gerät direkt an die Batterie an.

Teileliste (1)

Die Nummern in der Liste sind dieselben wie im Erläuterungstext.

Sicherheitshinweise

Seien Sie beim Umgang mit der Halterung ① vorsichtig, damit Sie sich nicht die Hände verletzen.

Anschlußbeispiel (2)

Anschlußdiagramm (3)

Ⓐ **An AMP REMOTE IN des gesondert erhältlichen Endverstärkers (Nur CDX-L400X)**
Dieser Anschluß ist ausschließlich für Verstärker gedacht. Schließen Sie nichts anderes daran an. Andernfalls kann das Gerät beschädigt werden.

Ⓑ **An Schnittstellenkabel eines Autotelefons**

Warnung

Wenn Sie eine Motorantenne ohne Relaiskästchen verwenden, kann durch Anschließen dieses Geräts mit dem mitgelieferten Stromversorgungskabel Ⓑ die Antenne beschädigt werden.

Hinweise zu den Steuerleitungen

- *Die Motorantennen-Steuerleitung (blau) liefert + 12 V Gleichstrom, wenn Sie den Tuner einschalten oder die AF- (Alternativfrequenzsuche) oder die TA-Funktion (Verkehrsdurchsagen) aktivieren.*
- *Wenn das Fahrzeug mit einer in der Heck/Seitenfensterscheibe integrierten FM (UKW)/MW/LW-Antenne ausgestattet ist, schließen Sie die Motorantennen-Steuerleitung (blau) oder die Zubehörstromversorgungsleitung (rot) an den Stromversorgungsanschluß des vorhandenen Antennenverstärkers an. Näheres dazu erfahren Sie bei Ihrem Händler.*
- *Es kann nur eine Motorantenne mit Relaiskästchen angeschlossen werden.*

Stromversorgung des Speichers

Wenn die gelbe Stromversorgungsleitung angeschlossen ist, wird der Speicher stets (auch bei ausgeschalteter Zündung) mit Strom versorgt.

Hinweise zum Lautsprecheranschluß

- *Schalten Sie das Gerät aus, bevor Sie die Lautsprecher anschließen.*
- *Verwenden Sie Lautsprecher mit einer Impedanz zwischen 4 und 8 Ohm und ausreichender Belastbarkeit. Ansonsten können die Lautsprecher beschädigt werden.*
- *Verbinden Sie die Lautsprecheranschlüsse nicht mit dem Wagenchassis, und verbinden Sie auch nicht die Anschlüsse des rechten mit denen des linken Lautsprechers.*
- *Verbinden Sie die Massekeitung dieses Geräts nicht mit dem negativen (-) Lautsprecheranschluß.*
- *Versuchen Sie nicht, Lautsprecher parallel anzuschließen.*
- *An die Lautsprecheranschlüsse dieses Geräts dürfen nur Passivlautsprecher angeschlossen werden. Schließen Sie keine Aktivlautsprecher (Lautsprecher mit eingebauten Verstärkern) an, da diese sonst beschädigt werden können.*
- *Um Fehlfunktionen zu vermeiden, verwenden Sie nicht die im Fahrzeug installierten, integrierten Lautsprecherleitungen, wenn am Ende eine gemeinsame negative (-) Leitung für den rechten und den linken Lautsprecher verwendet wird.*
- *Verbinden Sie nicht die Lautsprecherkabel des Geräts miteinander.*

Précautions

- Cet appareil est conçu pour fonctionner sur un courant continu de 12 V avec masse négative.
- Evitez de fixer des vis sur les câbles ou de coincer ceux-ci dans des pièces mobiles (par exemple, armature de siège).
- Avant d'effectuer des raccordements, éteignez le moteur pour éviter les courts-circuits.
- Branchez le cordon d'alimention Ⓑ sur l'appareil et les haut-parleurs avant de le brancher sur le connecteur d'alimentation auxiliaire.
- **Rassemblez tous les fils de terre en un point de masse commun.**
- Veillez à isoler tout fil ou câble non connecté avec du chatterton approprié.

Remarques sur le cordon d'alimentation (jaune)

- Lorsque cet appareil est raccordé à d'autres éléments stéréo, la valeur nominale des circuits de la voiture raccordée doit être supérieure à la somme des fusibles de chaque élément.
- Si aucun circuit de la voiture n'est assez puissant, raccordez directement l'appareil à la batterie.

Liste des composants (1)

Les numéros de l'illustration correspondent à ceux des instructions.

Avertissement

Manipulez précautionneusement le support ① pour éviter de vous blesser aux doigts.

Exemple de raccordement (2)

Schémas de connexion (3)

Ⓐ **Au niveau du AMP REMOTE IN d'un amplificateur de puissance facultatif (CDX-L400X seulement)**
Ce raccordement existe seulement pour les amplificateurs. Le raccordement à tout autre système peut endommager l'appareil.

Ⓑ **Vers le cordon de liaison d'un téléphone de voiture**

Avertissement

Si vous disposez d'une antenne électrique sans boîtier de relais, le branchement de cet appareil au moyen du cordon d'alimentation fourni Ⓑ risque d'endommager l'antenne.

Remarques sur les fils de commande

- *Le fil de commande (bleu) fournit du courant continu de +12 V lorsque vous allumez le sélecteur de canaux ou lorsque vous activez la fonction TA (informations circulation) ou AF (fréquence alternative).*
- *Lorsque votre voiture est équipée d'une antenne FM/MW/LW intégrée dans la vitre arrière/latérale, raccordez le fil de commande de l'antenne (bleu) ou l'entrée d'alimentation des accessoires (rouge) au borner de l'amplificateur d'antenne existant. Pour plus de détails, consultez votre revendeur.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire

Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est en position d'arrêt.

Remarques sur la connexion des haut-parleurs

- *Avant de raccorder les haut-parleurs, mettez l'appareil hors tension.*
- *Utilisez des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.*
- *Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne pas raccorder le câble de masse de cet appareil à la borne négative (-) du haut-parleur.*
- *Ne pas tenter de raccorder les haut-parleurs en parallèle.*
- *Ne pas connecter d'enceintes acoustiques actives (avec amplificateurs intégrés) aux bornes d'enceinte de cet appareil, pour éviter d'endommager les enceintes. Veiller à raccorder des enceintes passives.*
- *Pour éviter tout dysfonctionnement, n'utilisez pas les fils des haut-parleurs intégrés installés dans votre voiture si l'appareil dispose d'un fil négatif commun (-) pour les haut-parleurs droit et gauche.*
- *Ne raccordez pas entre eux les cordons des haut-parleurs de l'appareil.*

Attenzione

- Questo apparecchio è stato progettato per l'uso solo a 12 V CC con massa negativa.
- Evitare che i cavi rimangano bloccati da una vite o incastrati nelle parti mobili (ad esempio nelle guide scorrevoli dei sedili).
- Prima di effettuare i collegamenti, spegnere il motore dell'automobile onde evitare di causare cortocircuiti.
- Collegare il cavo di collegamento dell'alimentazione Ⓑ all'apparecchio e ai diffusori prima di collegarlo al connettore di alimentazione ausiliare.
- **Portare tutti i cavi di massa a un punto di massa comune.**
- Per sicurezza, assicurarsi di isolare qualsiasi cavo non collegato mediante apposito nastro.

Note sul cavo di alimentazione (giallo)

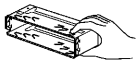
- Se questo apparecchio viene collegato in combinazione con altri componenti stereo, la potenza nominale dei circuiti dell'automobile deve essere superiore a quella prodotta dalla somma dei fusibili di ciascun componente.
- Se la potenza nominale dei circuiti dell'automobile non è sufficiente, collegare l'apparecchio direttamente alla batteria.

Elenco dei componenti (1)

I numeri nella lista corrispondono a quelli riportati nelle istruzioni.

Attenzione

Maneggiare la staffa ① con cautela per evitare di ferirsi le mani.



Esempi di collegamento (2)

Schema di collegamento (3)

Ⓐ **A AMP REMOTE IN di un amplificatore di potenza opzionale (Solo CDX-L400X)**
Questo collegamento è riservato esclusivamente agli amplificatori. Non collegare un tipo di sistema diverso onde evitare di causare danni all'apparecchio.

Ⓑ **Al cavo interfaccia di un telefono per auto**

Avvertenza

Quando si collega l'apparecchio con il cavo di alimentazione in dotazione Ⓑ, si potrebbe danneggiare l'antenna elettrica se questa non ha la scatola di relè.

Note sui cavi di controllo

- *Il cavo (blu) di controllo dell'antenna elettrica fornisce alimentazione pari a +12 V CC quando si attiva il sintonizzatore o la funzione TA (notiziario sul traffico). AF (frequenza alternativa).*
- *Se l'automobile è dotata di antenna FM/MW/LW incorporata nel vetro posteriore/laterale, collegare il cavo (blu) di controllo dell'antenna elettrica o il cavo (rosso) di ingresso dell'alimentazione opzionale ai terminale di alimentazione del preamplificatore dell'antenna esistente. Per ulteriori informazioni, consultare il proprio fornitore.*
- *Non è possibile usare un'antenna elettrica senza scatola a relè con questo apparecchio.*

Collegamento per la conservazione della memoria

Quando il cavo di ingresso alimentazione giallo è collegato, viene sempre fornita alimentazione al circuito di memoria anche quando l'interruttore di accensione è spento.

Note sul collegamento dei diffusori

- *Prima di collegare i diffusori spegnere l'apparecchio.*
- *Usare i diffusori di impedenza compresa tra 4 e 8 ohm e con capacità di potenza adeguata, altrimenti i diffusori potrebbero venir danneggiati.*
- *Non collegare i terminali del sistema diffusori al telaio dell'auto e non collegare i terminali del diffusore destro a quelli del diffusore sinistro.*
- *Non collegare il cavo di terra di questo apparecchio al terminale negativo (-) del diffusore.*
- *Non collegare i diffusori in parallelo.*
- *Assicurarsi di collegare soltanto diffusori passivi, poiché il collegamento di diffusori attivi, dotati di amplificatori incorporati, ai terminali dei diffusori potrebbe danneggiare l'apparecchio.*
- *Per evitare problemi di funzionamento, non utilizzare i cavi dei diffusori incorporati installati nell'automobile se l'apparecchio condivide un cavo comune negativo (-) per i diffusori destro e sinistro.*
- *Non collegare fra loro i cavi dei diffusori dell'apparecchio.*

Let op!

- Dit apparaat is ontworpen voor gebruik op gelijkstroom van een 12 Volts auto-accu, negatief geaard.
- Zorg ervoor dat de draden niet onder een schroef of tussen bewegende onderdelen (b.v. zetelrail) terechtkomen.
- Alvorens aansluitingen te verrichten moet u het contact afzetten om kortsluiting te vermijden.
- Sluit het netsnoer Ⓑ aan op het toestel en de luidsprekers voordat u het op de hulpvoedingsaansluiting aansluit.
- **Sluit alle aarddraden op een gemeenschappelijk aardpunt aan.**
- Voorzie niet aangesloten draden om veiligheidsredenen altijd van isolatietape.

Opmerkingen bij de voedingskabel (geel)

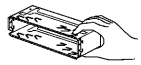
- Wanneer u dit toestel aansluit samen met andere componenten, moet het vermogen van de aangesloten autostroomkring groter zijn dan de som van de zekeringen van elke component afzonderlijk.
- Wanneer het vermogen ontoereikend is, moet u het toestel rechtstreeks aansluiten op de batterij.

Onderdelenlijst (1)

De nummers in de afbeelding verwijzen naar die in de montage-aanwijzingen.

Opgelet

Houd de beugel ① voorzichtig vast zodat u uw vingers niet verwondt.



Voorbeeldaansluitingen (2)

Aansluitschema (3)

Ⓐ **Naar AMP REMOTE IN van een los verkrijgbare vermogensversterker (Alleen voor de CDX-L400X)**
Deze aansluiting is alleen bedoeld voor versterkers. Door een ander systeem aan te sluiten kan het toestel worden beschadigd.

Ⓑ **Naar het interface-snoer van een autotelefoon**

Opgelet

Indien u een elektrische antenne heeft zonder relaisdoos, kan het aansluiten van deze eenheid met het bijgeleverde netsnoer Ⓑ de antenne beschadigen.

Opmerking betreffende de aansluitsnoeren

- *De antenneverdingsdraad (blauw) levert + 12 V gelijkstroom wanneer u de tuner aanzet/schakelt of de AF (Alternative Frequency), TA (Traffic Announcement) functie activeert.*
- *Wanneer uw auto is uitgerust met een FM/MW/LW-antenne in de achterruit/voorruit, moet u de antenneverdingsdraad (blauw) of de hulpvoedingskabel (rood) aansluiten op de voedingsingang van de bestaande antenneversterker. Raadpleeg uw dealer voor meer details.*
- *Met dit apparaat is het niet mogelijk een automatische antenne zonder relaishuis te gebruiken.*

Instandhouden van het geheugen

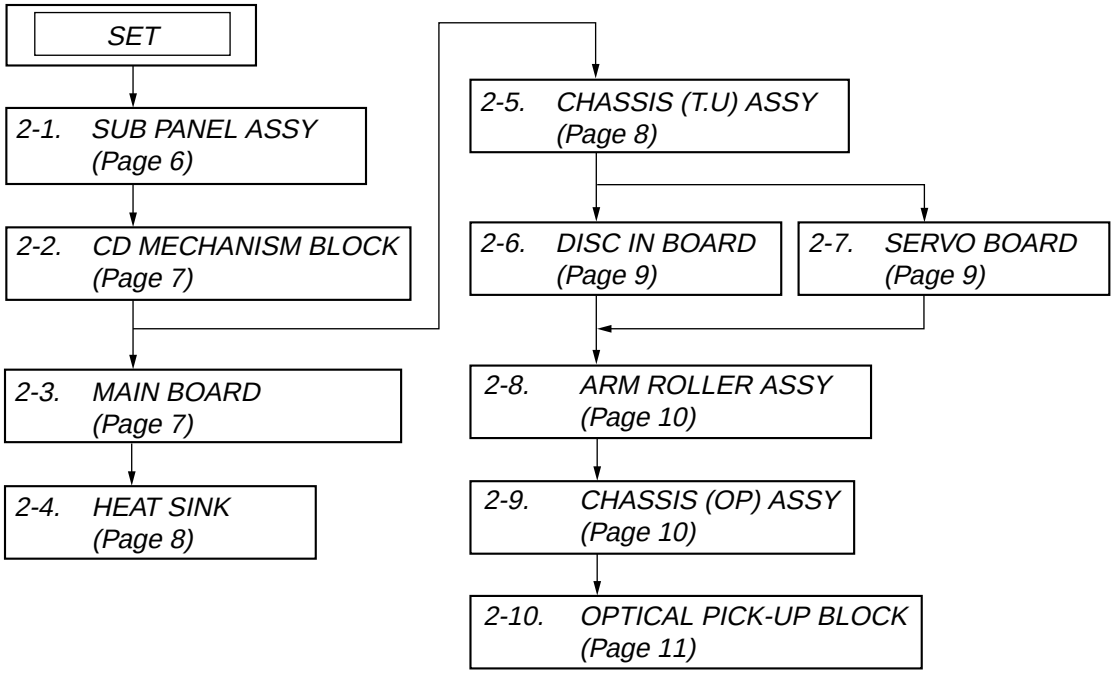
Zolang de gele stroomdraad is aangesloten, blijft de stroomvoorziening van het geheugen intact, ook wanneer het contact van de auto wordt uitgeschakeld.

Opmerkingen betreffende het aansluiten van de luidsprekers

- *Zorg dat het apparaat is uitgeschakeld, alvorens de luidsprekers aan te sluiten.*
- *Gebruik luidsprekers met een impedantie van 4 tot 8 Ohm en let op dat die het vermogen van de versterker kunnen verwerken. Als dit vooralt wanneer, kunnen de luidsprekers ernstig beschadigd raken.*
- *Verbind in geen geval de aardutlingen van de luidsprekers met het chassis van de auto en sluit de aansluitingen van de rechter en linker luidspreker niet op elkaar aan.*
- *Verbind de massakabel van dit toestel niet met de negatieve (-) aansluiting van de luidsprekers.*
- *Probeer nooit de luidsprekers parallel aan te sluiten.*
- *Sluit geen actieve luidsprekers (met ingebouwde versterkers) aan op de luidspreker-aansluiting van dit apparaat. Dit, het leiden tot beschadiging van de actieve luidsprekers. Sluit dus altijd uitsluitend luidsprekers zonder ingebouwde versterker aan.*
- *Om defecten te vermijden mag u de bestaande luidsprekerbedrading in uw auto niet gebruiken wanneer er een gemeenschappelijke negatieve (-) draad is voor de rechter en linker luidsprekers.*
- *Verbind de luidsprekerdraden niet met elkaar.*

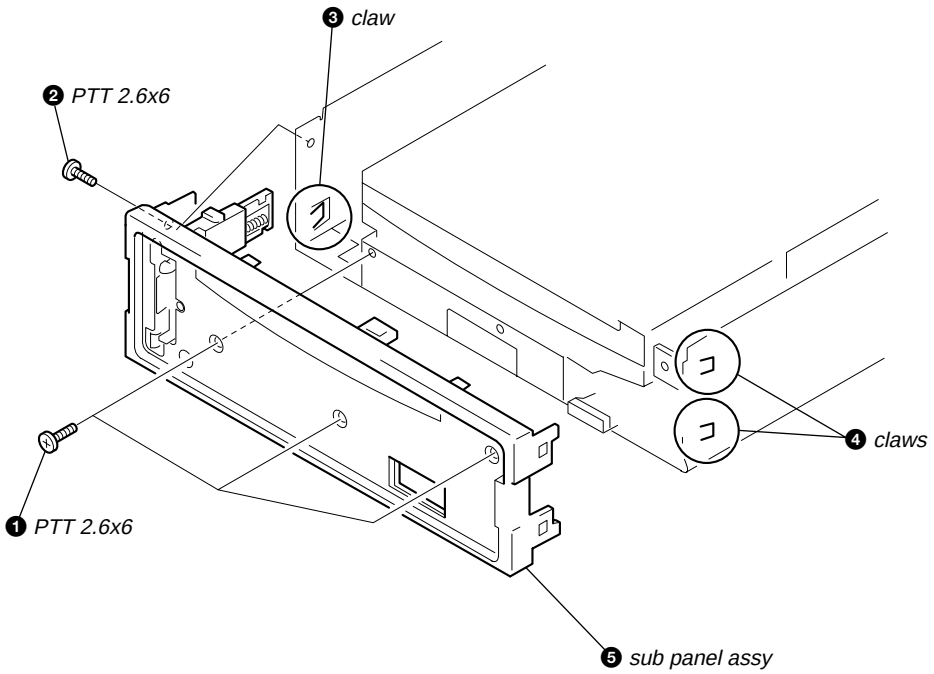
SECTION 2
DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

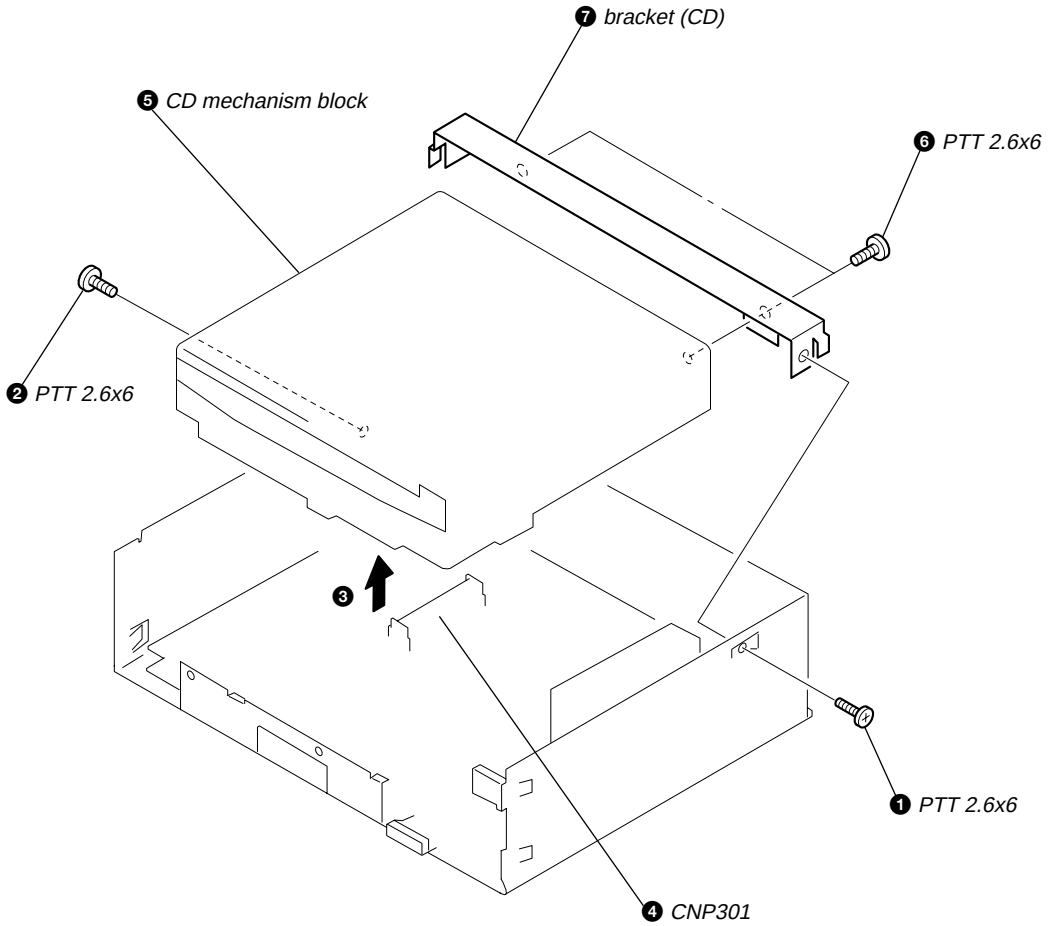

SET
2-1. SUB PANEL ASSY (Page 6)
2-2. CD MECHANISM BLOCK (Page 7)
2-3. MAIN BOARD (Page 7)
2-4. HEAT SINK (Page 8)
2-5. CHASSIS (T.U) ASSY (Page 8)
2-6. DISC IN BOARD (Page 9)
2-7. SERVO BOARD (Page 9)
2-8. ARM ROLLER ASSY (Page 10)
2-9. CHASSIS (OP) ASSY (Page 10)
2-10. OPTICAL PICK-UP BLOCK (Page 11)

Note : Follow the disassembly procedure in the numerical order given.

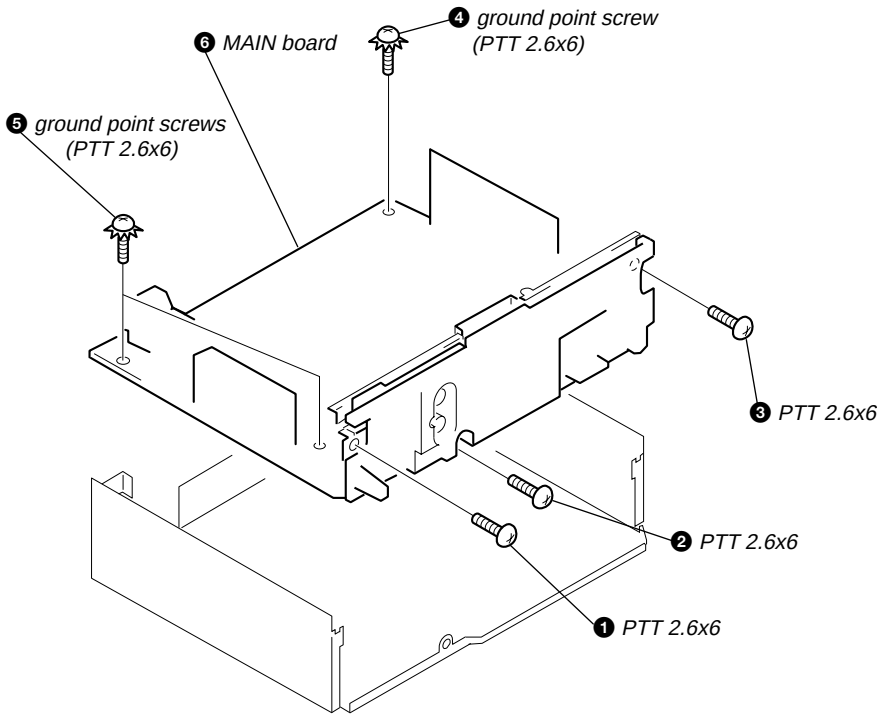
2-1. SUB PANEL ASSY



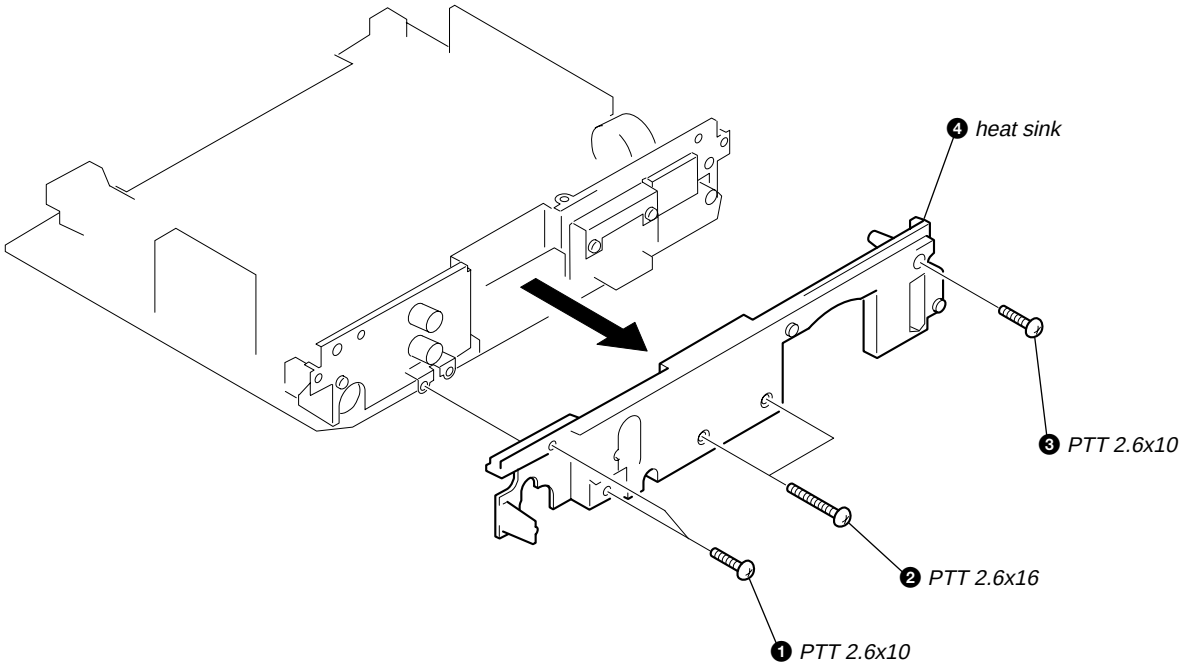
2-2. CD MECHANISM BLOCK



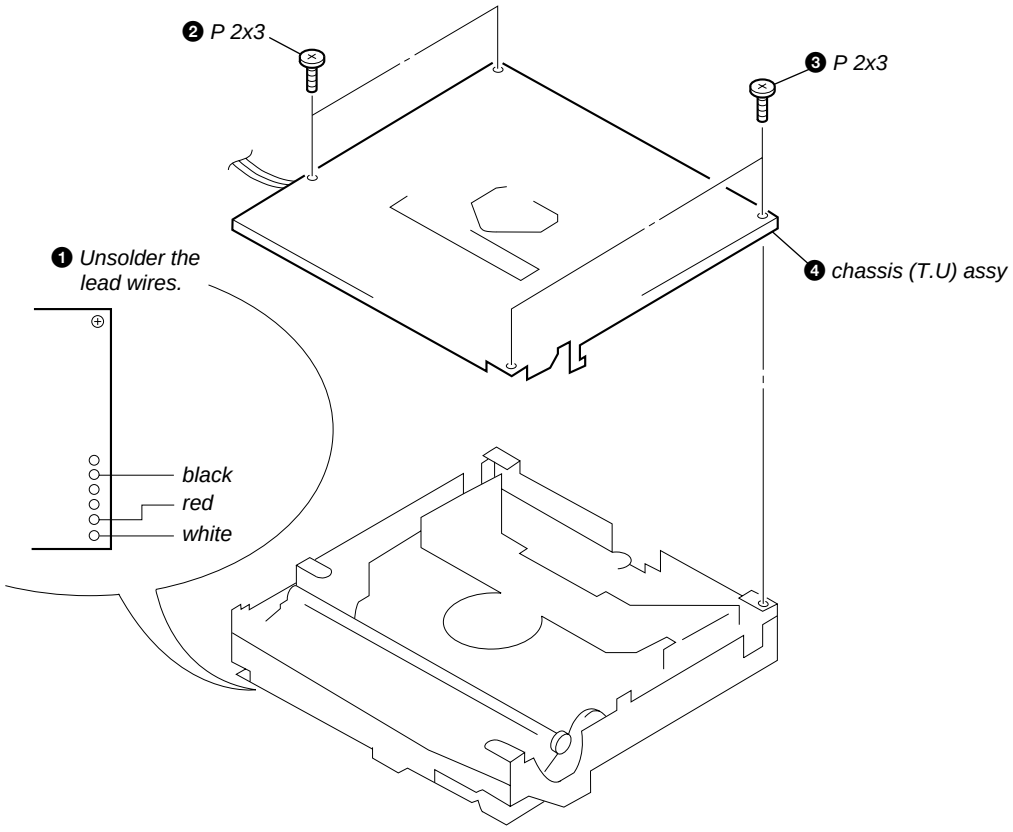
2-3. MAIN BOARD



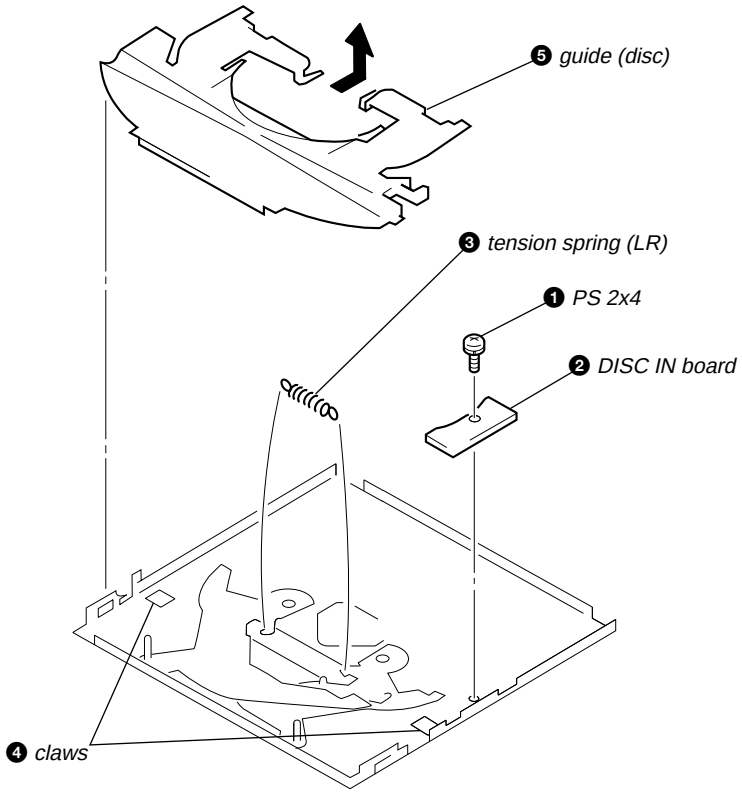
2-4. HEAT SINK



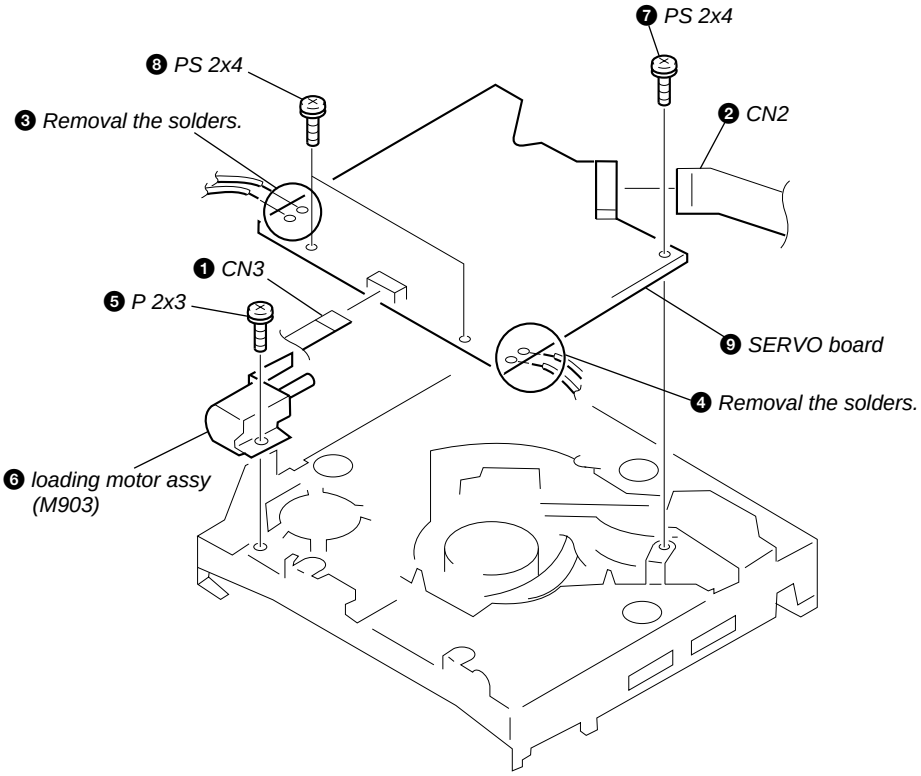
2-5. CHASSIS (T.U) ASSY



2-6. DISC IN BOARD



2-7. SERVO BOARD



2-8. ARM ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

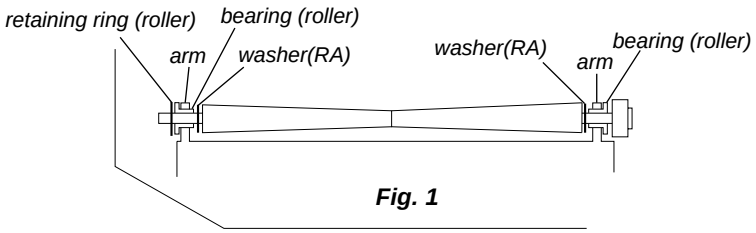
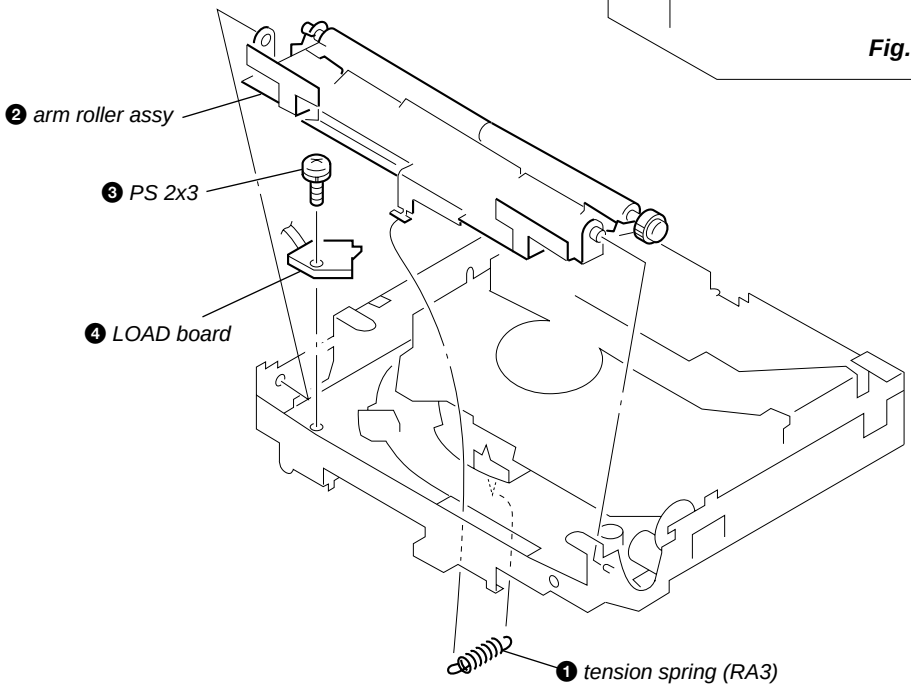
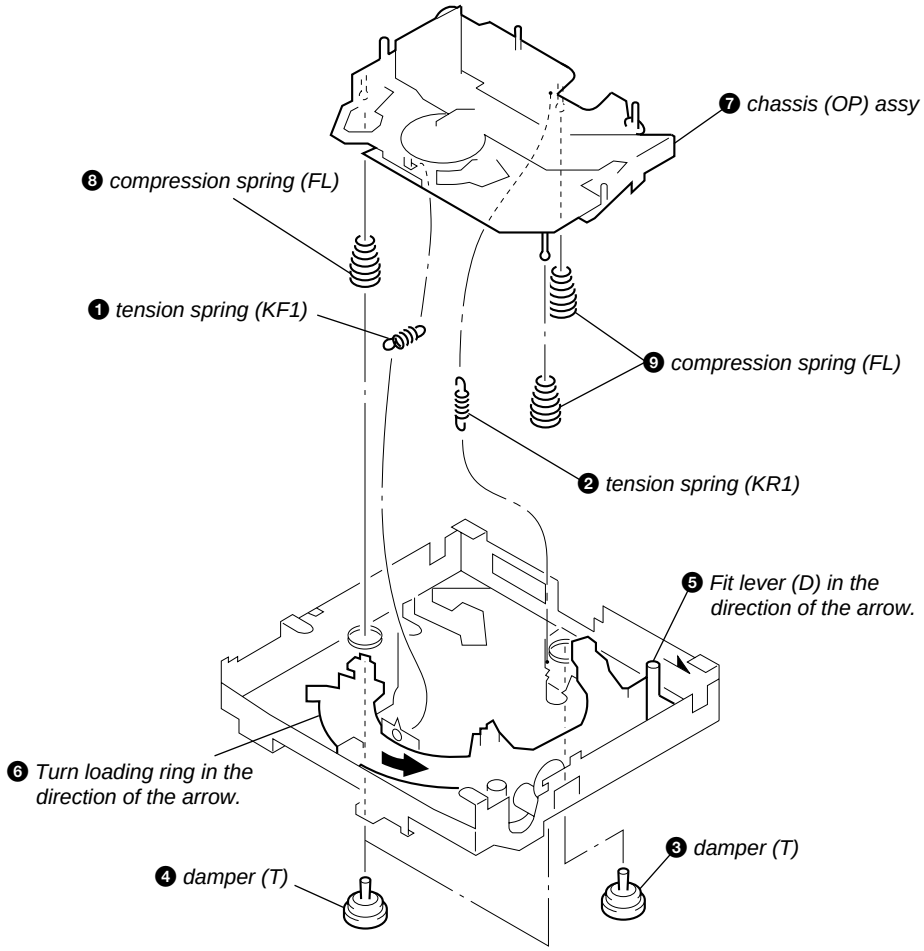


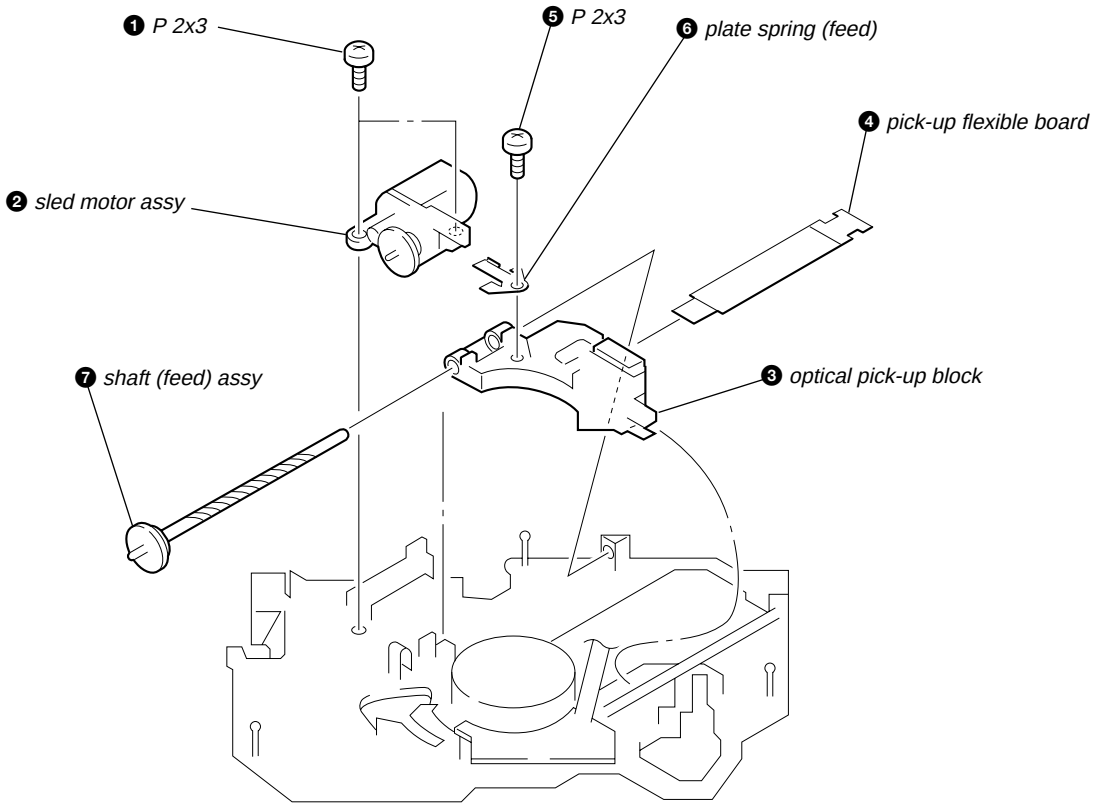
Fig. 1



2-9. CHASSIS (OP) ASSY


❼ chassis (OP) assy
❽ compression spring (FL)
❶ tension spring (KF1)
❾ compression spring (FL)
❷ tension spring (KR1)
❺ Fit lever (D) in the direction of the arrow.
❻ Turn loading ring in the direction of the arrow.
❸ damper (T)
❹ damper (T)

2-10. OPTICAL PICK-UP BLOCK



SECTION 3
DIAGRAMS

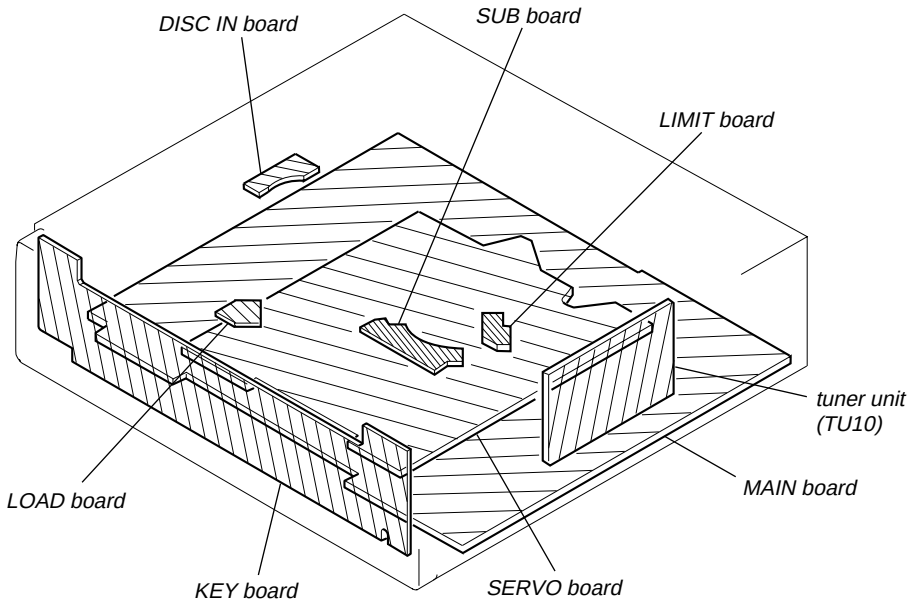
3-1. IC PIN DESCRIPTION

• IC501 MN101C49KTD2 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	VREF–	—	Rated voltage – for A/D converter.
2	VSM	I	S-meter voltage detection input
3	NC	—	Not used. (Connect to ground in this set)
4	KEYIN1	I	Key input 1
5	KEYIN0	I	Key input 0
6	RCIN0	I	Rotary commander input 0 (Fixed at L in this set)
7	QUALITY	I	Noise detection input
8	MPTH	I	Tuner multi-path detection input
9	NC	—	Not used. (Connect to ground in this set)
10	VREF+	—	Rated voltage + for A/D converter. (+5 V)
11	VDD	—	Power supply pin (+5 V)
12	OSCOUT	O	Oscillator output (18.432 MHz)
13	OSCIN	I	Oscillator input (18.432 MHz)
14	VSS	—	Ground
15	XIN	I	Oscillator input (32.768 kHz)
16	XOUT	O	Oscillator output (32.768 kHz)
17	MMOD	—	Mode selector (Connect to ground in this set)
18	LCDSO	O	LCD serial data output
19	LCDCE	O	LCD chip enable output
20	LCDCKO	O	LCD serial clock output
21	CD_TSO	O	CD text serial data output
22	CD_TSI	I	CD text serial data input
23	CD_TCKO	O	CD text serial clock output
24	NC	—	Not used. (Open)
25	NC	—	Not used. (Open)
26	KEY ACK	I	Key acknowledge detection input
27	DAVN	I	RDS data block synchro detection input
28	BUIN	I	Back-up power detection input
29	NC	I	Not used. (Connect to ground in this set)
30	CD_SELFSW	I	CD self switch input
31	CD_PACK	I	CD pack synchro signal input
32	NC (VCC)	—	Not used. (Connect to VDD in this set)
33	$\overline{\text{RESET}}$	I	Reset input
34	NC	—	Not used. (Fixed at H in this set)
35	BEEP	O	Beep output
36	NC	—	Not used. (Open)
37	$\overline{\text{TESTIN}}$	I	Test mode detection input
38	$\overline{\text{ACCIN}}$	I	Accessory power detection input
39	NC (VCC)	—	Not used. (Open)
40	TELATT	I	Telephone attenuate detection input
41	NC (VCC)	—	Not used. (Connect to VDD in this set)
42	UNISO	O	SONY BUS data output
43	UNISI	I	SONY BUS data input
44	UNICKO	O	SONY BUS clock output
45	I2C_SIO	I/O	I^2C BUS serial data input/output
46	NC	—	Not used. (Open)
47	I2C_CKO	O	I^2C BUS serial clock output
48	NC	—	Not used. (Open)
49	TUNON	O	Tuner power control output
50	PW_ON	O	System power control output
51	TSTB	O	CD text strobe output

Pin No.	Pin Name	I/O	Pin Description
52	RFOK	I	CD RFOK signal input
53	CD_RST	O	CD reset signal output
54	A0	O	CD command/parameter signal output
55	STB	O	CD strobe signal output
56	X_EN	O	CD crystal oscillator control output
57	LIMIT	I	CD limit switch input
58	PH1	I	Not used. (Fixed at H in this set)
59	D_SW	I	CD down switch input
60	INSW	I	CD disc in switch input
61	NC (PH3)	—	Not used. (Fixed at H in this set)
62	CD_LM_LO	O	Loading motor control output (Loading direction)
63	CD_LM_EJ	O	Loading motor control output (Eject direction)
64	NC	—	Not used. (Open)
65	NC	—	Not used. (Open)
66	$\overline{\text{AMPATT}}$	O	Power amplifier attenuator control output
67	AMPON	O	Power amplifier standby control output
68	CDMD_ON	O	CD mechanism power control output
69	ATT	O	System attenuate control output
70	$\overline{\text{VOLATT}}$	O	Electronic volume attenuate control output
71	NC	—	Not used. (Open)
72	NC	—	Not used. (Open)
73	NC	—	Not used. (Open)
74	NC	—	Not used. (Open)
75	NC	—	Not used. (Open)
76	NC	—	Not used. (Connect to ground in this set)
77	NC	—	Not used. (Connect to ground in this set)
78	DIMSEL	—	Not used. (Open)
79	XCD_ON	O	CD power control output
80	TU-ATT	—	Not used. (Open)
81	NC	—	Not used. (Open)
82	NC	—	Not used. (Open)
83	NC	—	Not used. (Open)
84	NC	—	Not used. (Open)
85	NC	—	Not used. (Open)
86	E2P_SIO	I/O	EEPROM serial data input/output
87	E2P_CKO	O	EEPROM serial clock output
88	NC	—	Not used. (Open)
89	FLASH_W	I	Flash write input
90	NS_MASK	O	Noise detection output
91	$\overline{\text{AD\_ON}}$	O	Key power control output
92	NC	—	Not used. (Open)
93	ILLON	O	Illumination power control output
94	$\overline{\text{DOORSW}}$	I	Not used. (Connect to ground in this set)
95	DAVSS	—	Ground for D/A converter.
96	NC	—	Not used. (Open)
97	NC	—	Not used. (Open)
98	RCIN1	I	Rotary commander input 1 (Fixed at L in this set)
99	RAMBU	—	Not used. (Connect to ground in this set)
100	DAVDD	—	D/A converter power supply pin (+5 V)

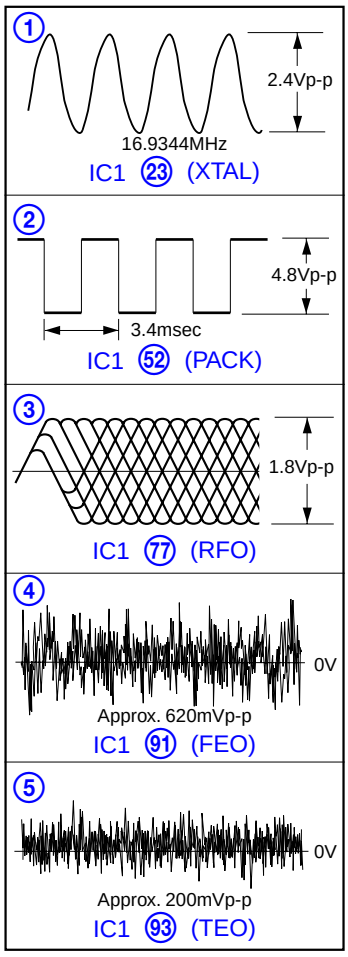
3-2. CIRCUIT BOARDS LOCATION



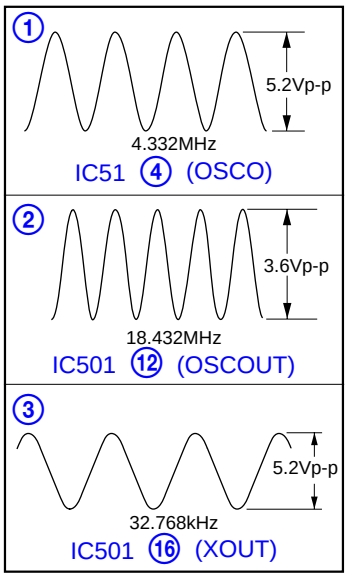
• Waveforms

— Servo Board —

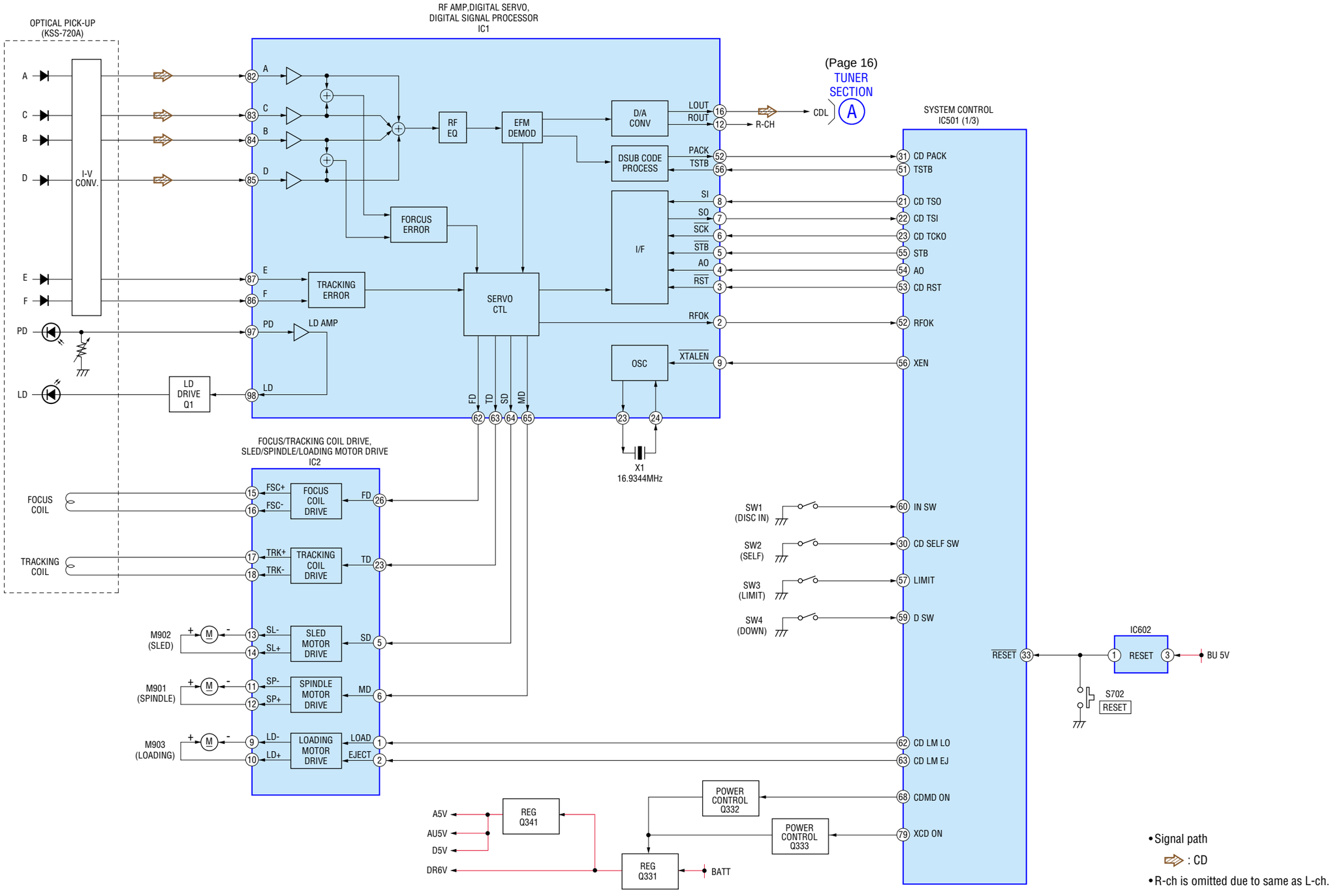
(MODE: CD PLAY)



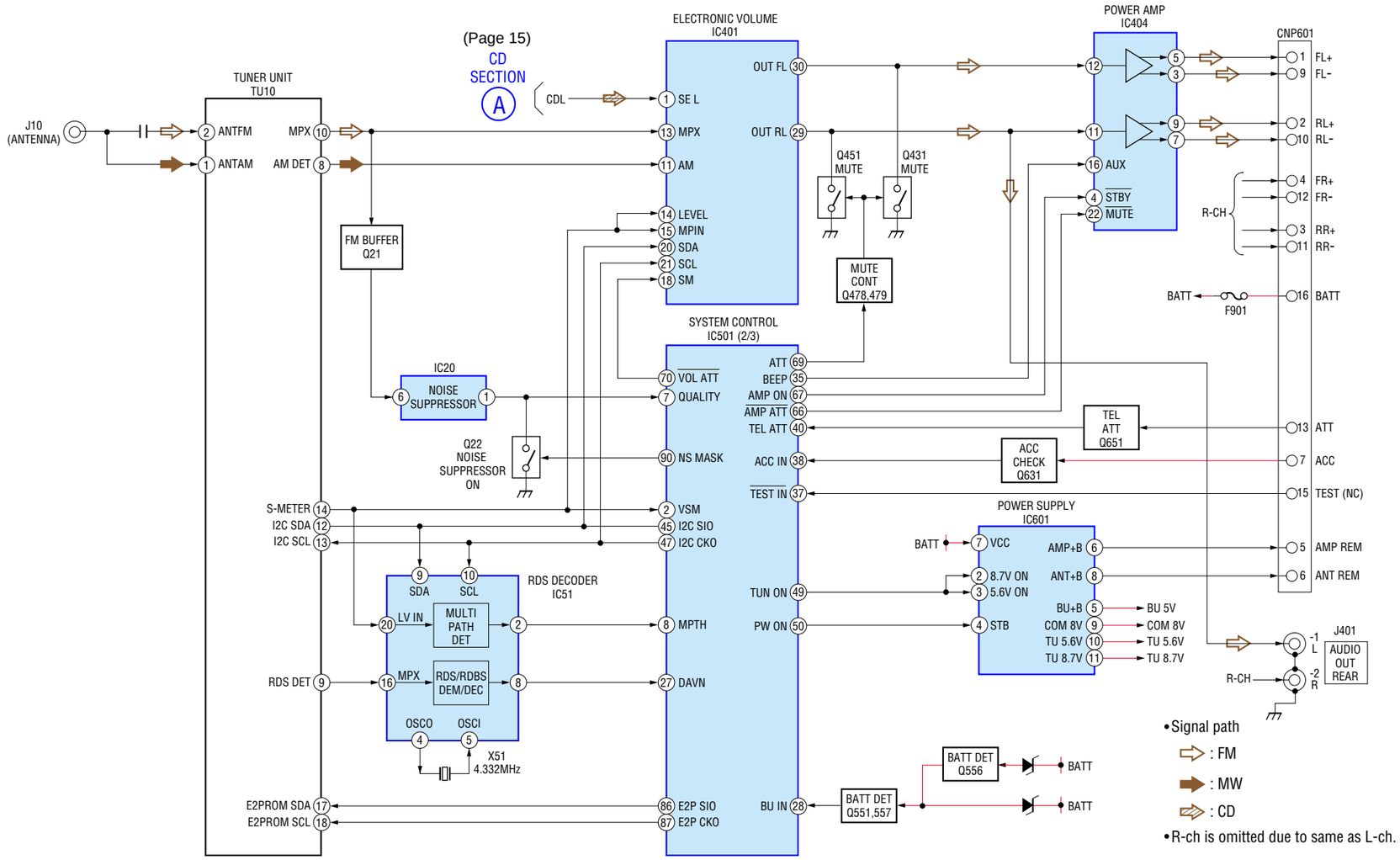
— Main Board —



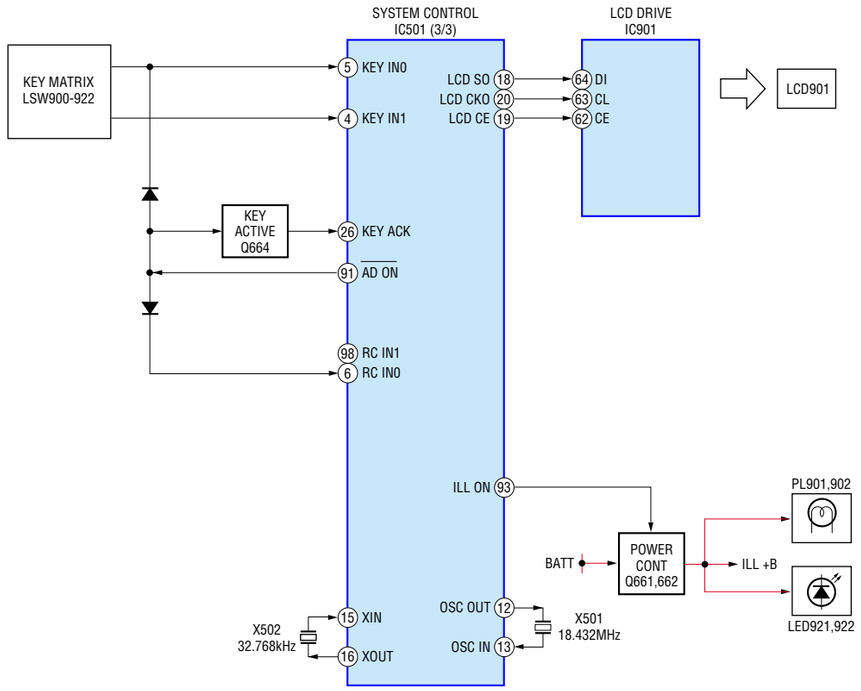
3-3. BLOCK DIAGRAM — CD SECTION —



3-4. BLOCK DIAGRAM — TUNER SECTION —



3-5. BLOCK DIAGRAM — DISPLAY SECTION —



3-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION — • Refer to page 14 for Circuit Boards Location.

14 13 12 11 10 9 8 7 6 5 4 3 2 1

A B C D E F G H I J

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- ▵ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

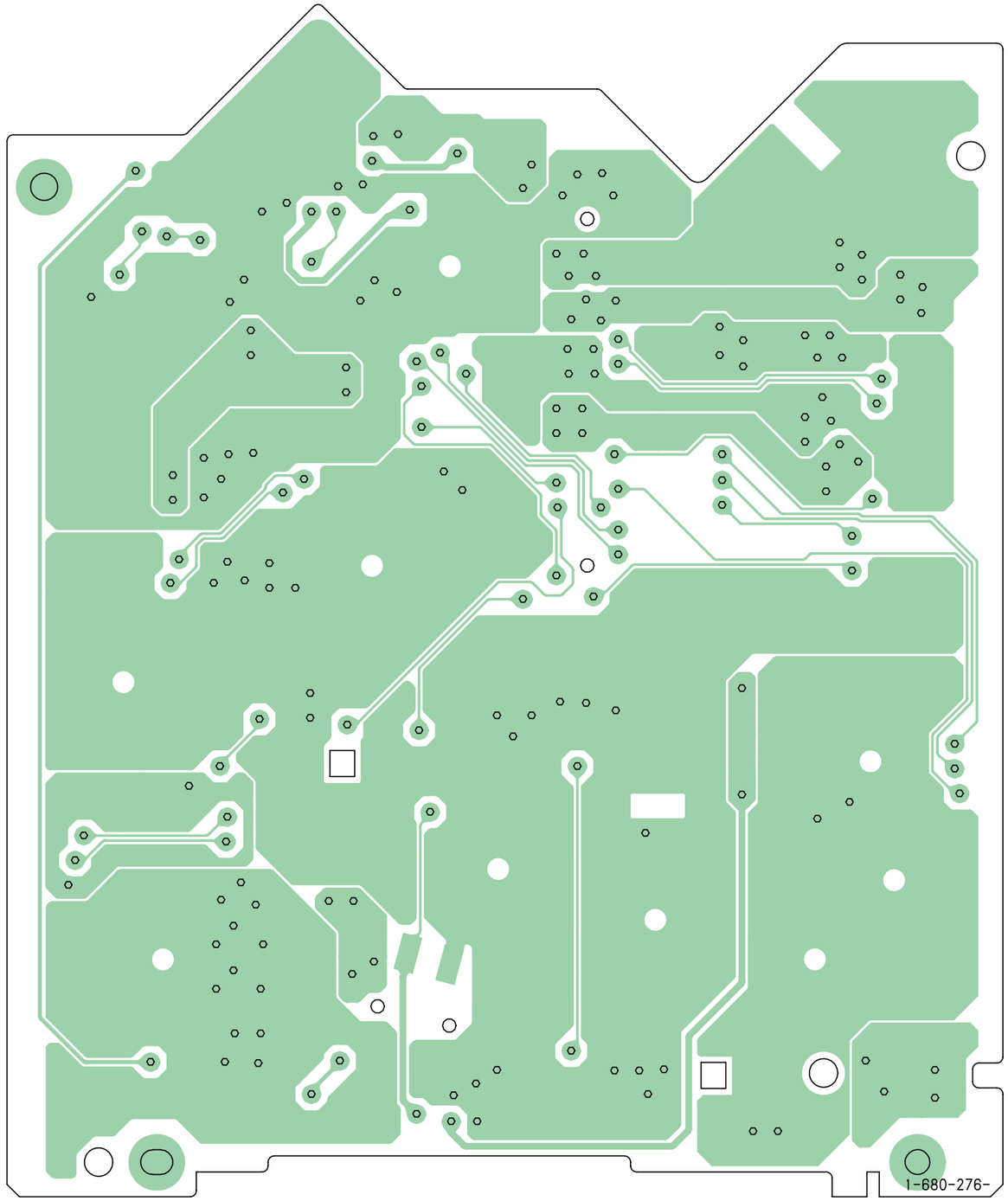
- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ➡ : MW
  - ⇨ : CD

for printed wiring boards:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- ▬ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

【SERVO BOARD】(SIDE B)



【PICK-UP FLEXIBLE BOARD】

【SERVO BOARD】(SIDE A)

1-676-707- 21

OPTICAL PICK-UP (KSS-720A)

(Page 21) 1 MAIN BOARD CNP301

【DISC IN BOARD】

【LIMIT BOARD】

【LOAD BOARD】

【SUB BOARD】

【MOTOR FLEXIBLE BOARD】 1-659-880- 11

M903 (LOADING)

M902 (SLED)

M901 (SPINDLE)

SW1 (DISC IN)

SW2 (SELF)

SW3 (LIMIT)

SW4 (DOWN)

1-659-836- 11 (12)

1-659-835- 12 (12)

1-659-837- 11 (12)

1-659-834- 11 (12)

1-680-276- 23

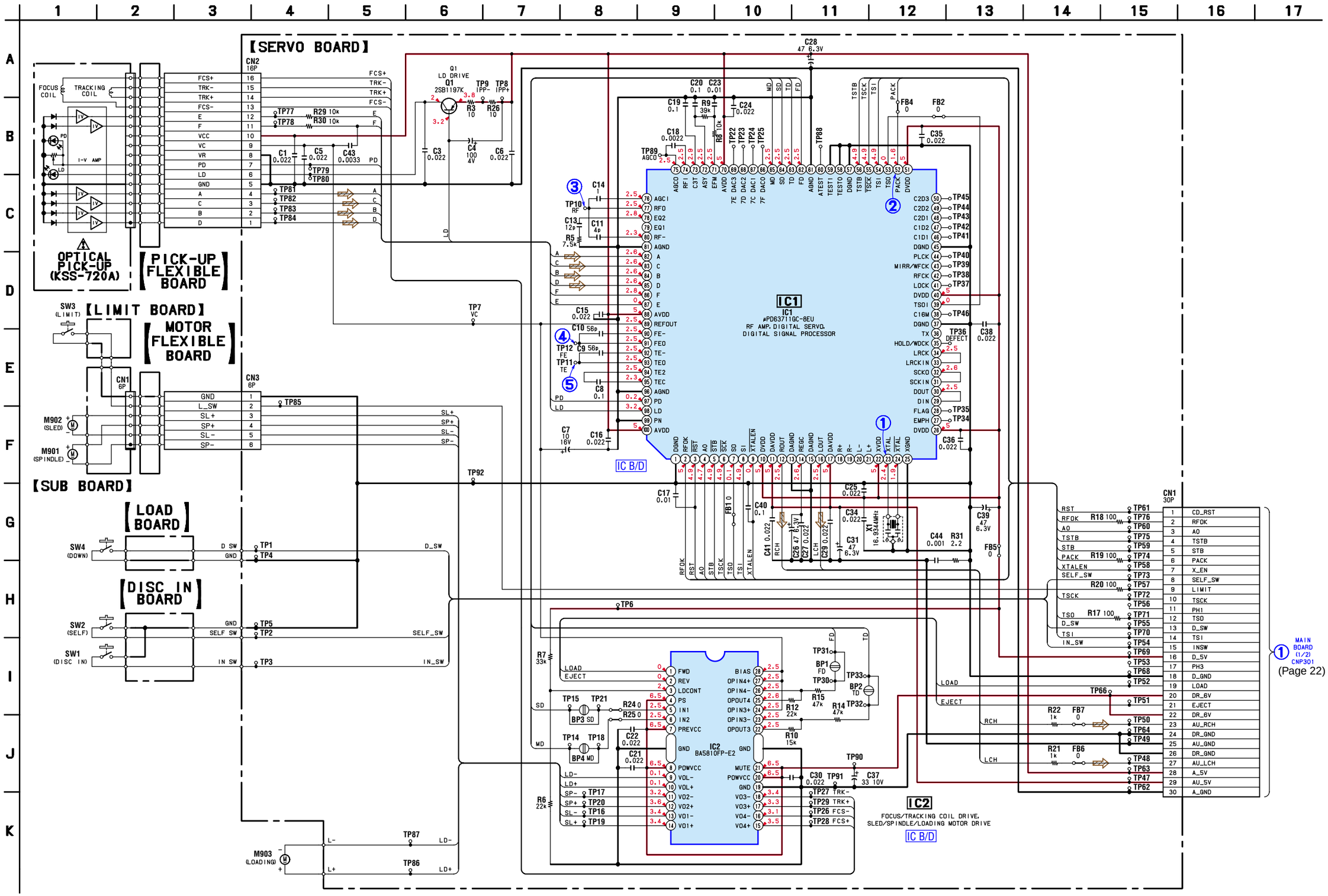
- **Semiconductor Location**

Ref. No.	Location
IC1	E-7
IC2	H-7
Q1	C-5

• Refer to page 14 for Waveforms and page 18 for Common Note on Schematic Diagram.

3-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION —

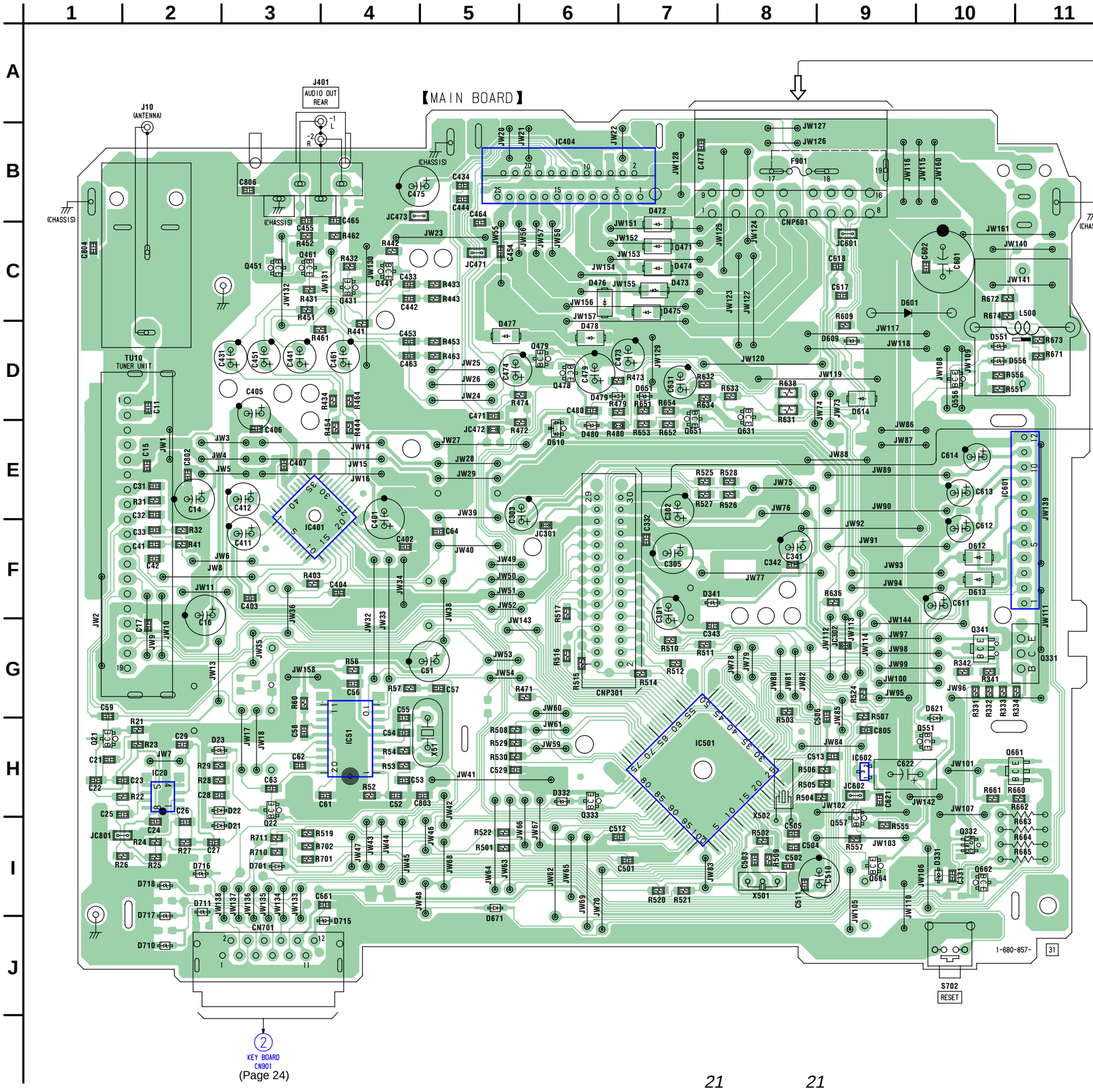
• Refer to page 26 for IC Block Diagrams.

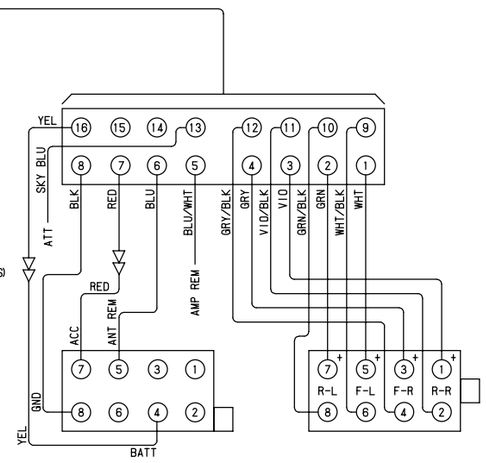


Note:

- Voltage is dc with respect to ground under no-signal conditions.
  no mark : CD PLAY

3-8. PRINTED WIRING BOARD — MAIN SECTION — • Refer to page 14 for Circuit Boards Location and page 18 for Common Note on Printed Wiring Boards.





• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D21	I-3	D717	J-2
D22	H-3	D718	I-2
D23	H-3		
D331	I-10	IC20	H-2
D332	H-6	IC51	H-4
D341	F-7	IC401	F-3
D471	C-7	IC404	B-6
D472	B-7	IC501	H-7
D473	C-7	IC601	E-11
D474	C-7	IC602	H-9
D475	C-7		
D476	C-6	Q21	H-1
D477	D-5	Q22	H-3
D478	D-6	Q331	G-11
D479	D-6	Q332	I-10
D480	E-6	Q333	H-6
D551	D-10	Q341	G-10
D556	D-10	Q431	C-4
D601	C-9	Q441	C-4
D609	D-9	Q451	C-3
D610	E-6	Q461	C-3
D612	F-10	Q478	D-6
D613	F-10	Q479	D-6
D614	D-9	Q551	H-10
D621	H-10	Q556	D-10
D651	D-7	Q557	I-9
D671	J-5	Q631	E-8
D701	I-3	Q651	E-7
D710	J-2	Q661	H-10
D711	I-2	Q662	I-10
D715	J-4	Q664	I-9
D716	I-2		

• Refer to page 14 for Waveforms and page 18 for Common Note on Schematic Diagram.

3-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) —

• Refer to page 26 for IC Block Diagrams.

【MAIN BOARD】(1/2)

IC20 NOISE SUPPRESSOR

IC401 TDA7402TR ELECTRONIC VOLUME

IC501 MN101C49KTD2 SYSTEM CONTROL

IC51 SAA6588T/V2 RDS DECODER

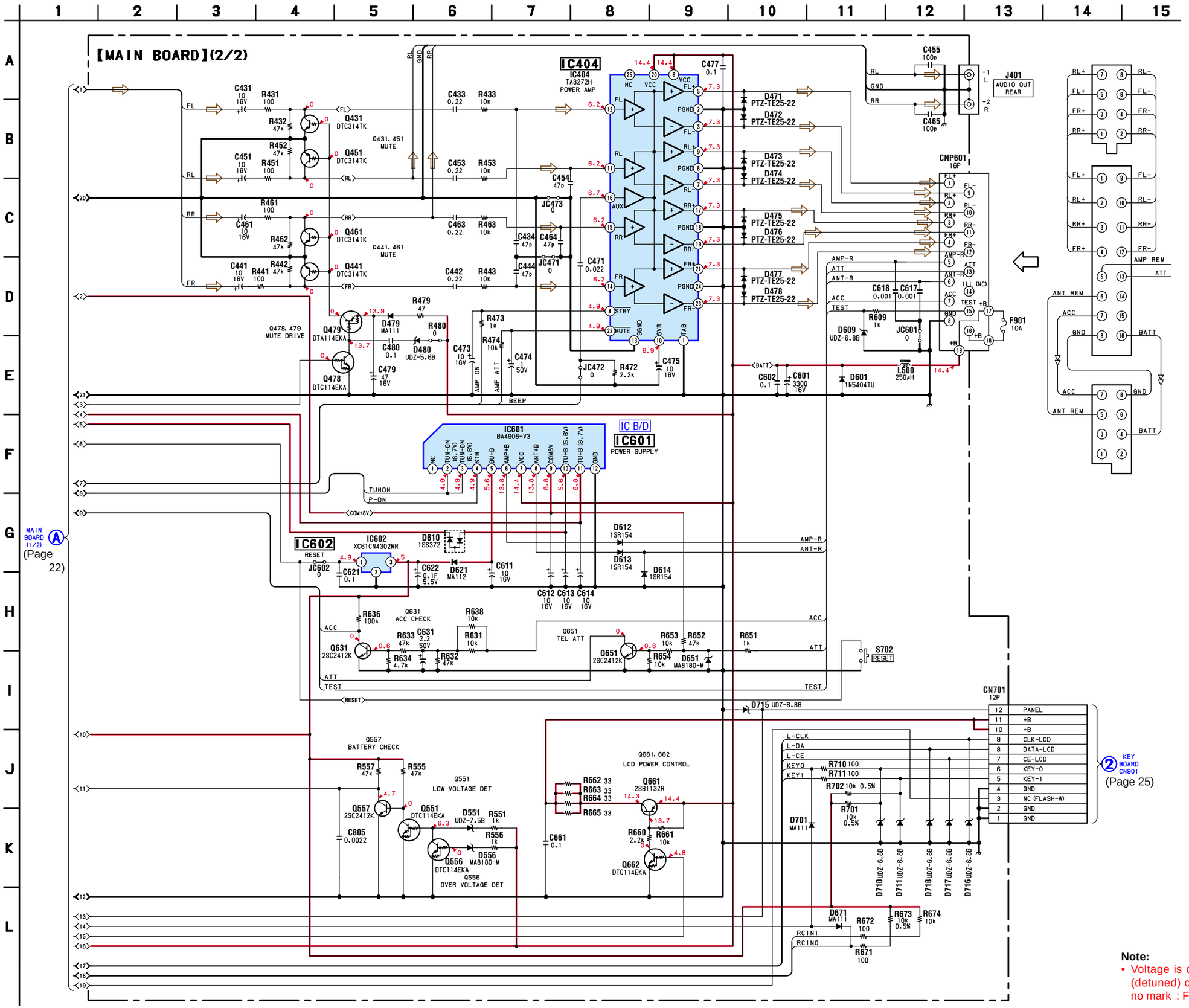
SERVO BOARD (Page 20)

MAIN BOARD (2/2) (Page 23)

Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

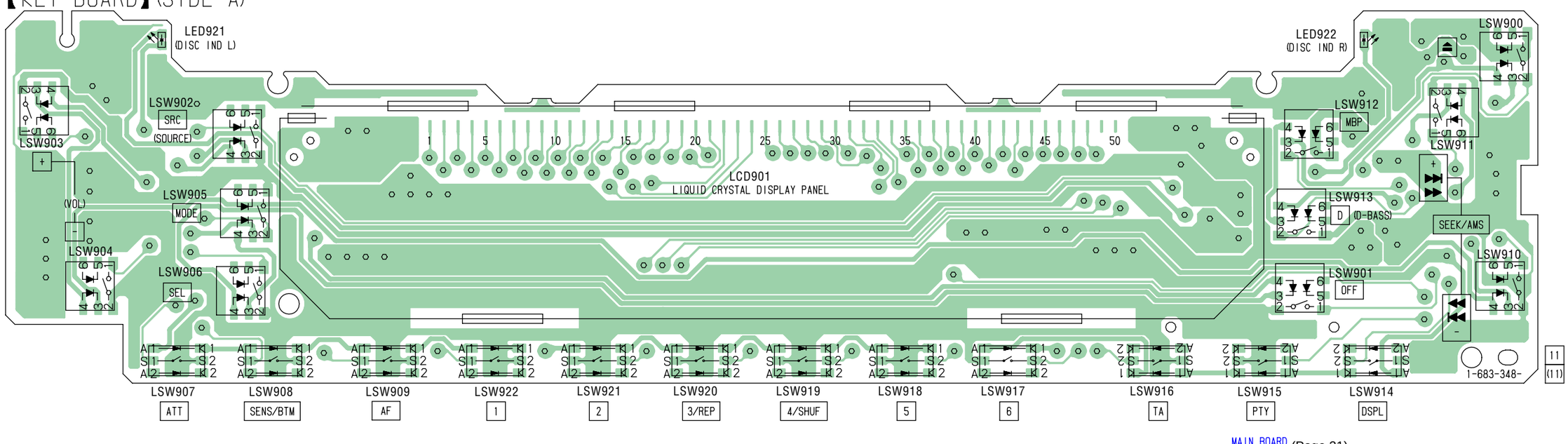
3-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 18 for Common Note on Schematic Diagram and page 26 for IC Block Diagrams.



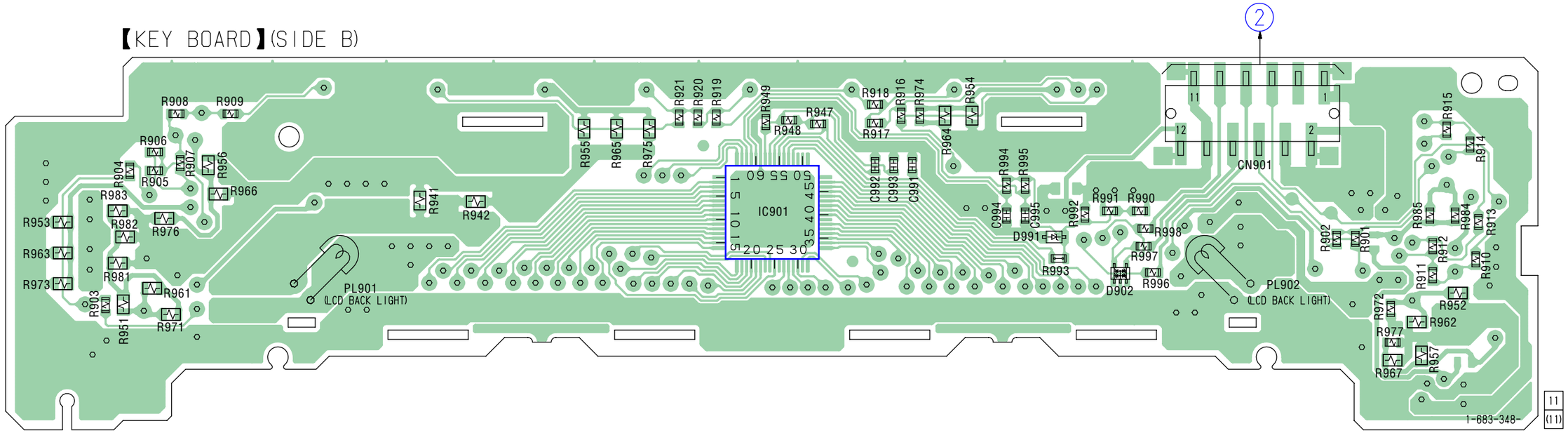
Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

3-11. PRINTED WIRING BOARD — KEY SECTION — • Refer to page 14 for Circuit Boards Location and page 18 for Common Note on Printed Wiring Boards.

【KEY BOARD】(SIDE A)



【KEY BOARD】(SIDE B)

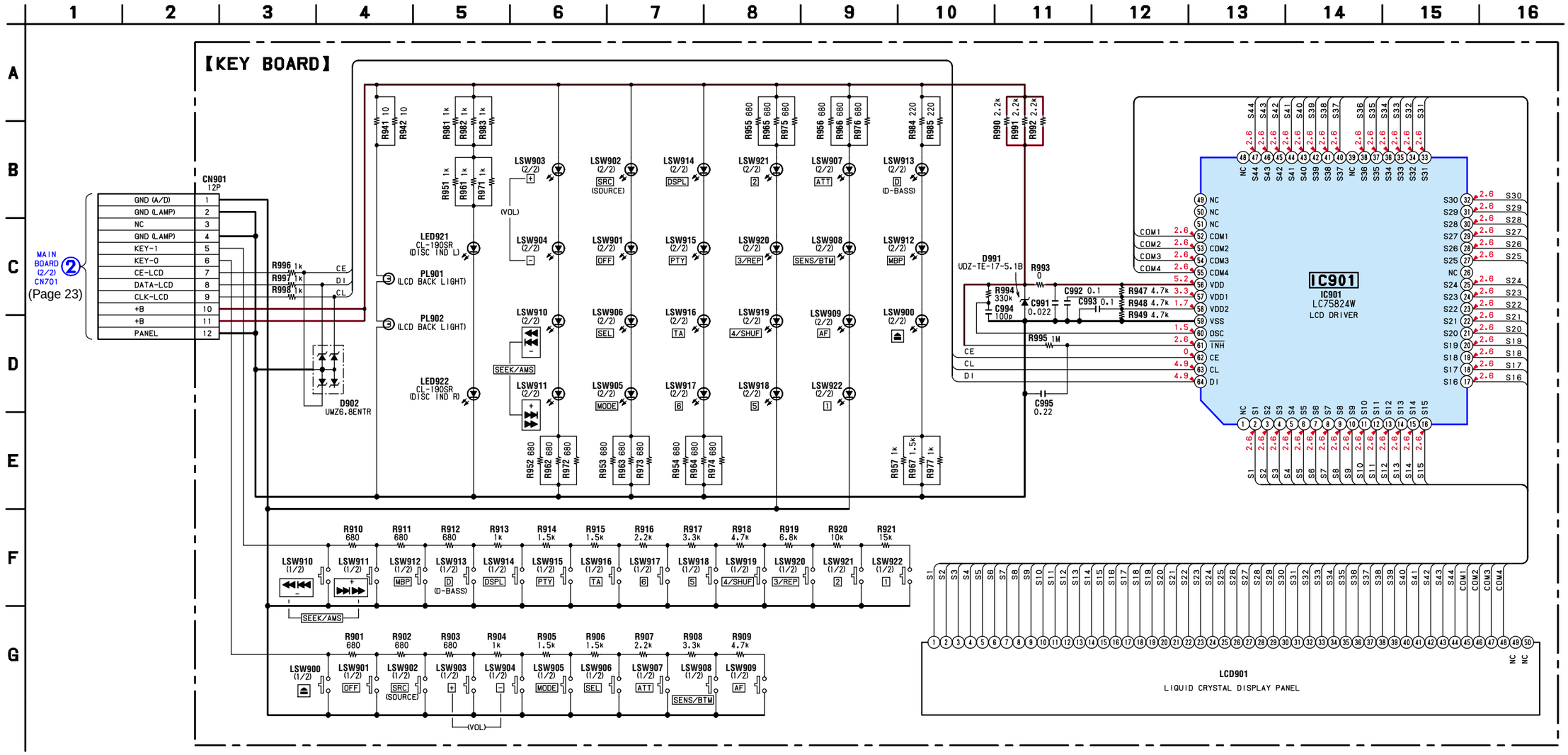


- **Semiconductor Location**

Ref. No.	Location
(D902)	G-11
(D991)	G-10
(IC901)	G-8
LED921	A-2
LED922	A-13

( ) : SIDE B

3-12. SCHEMATIC DIAGRAM — KEY SECTION — • Refer to page 18 for Common Note on Schematic Diagram.

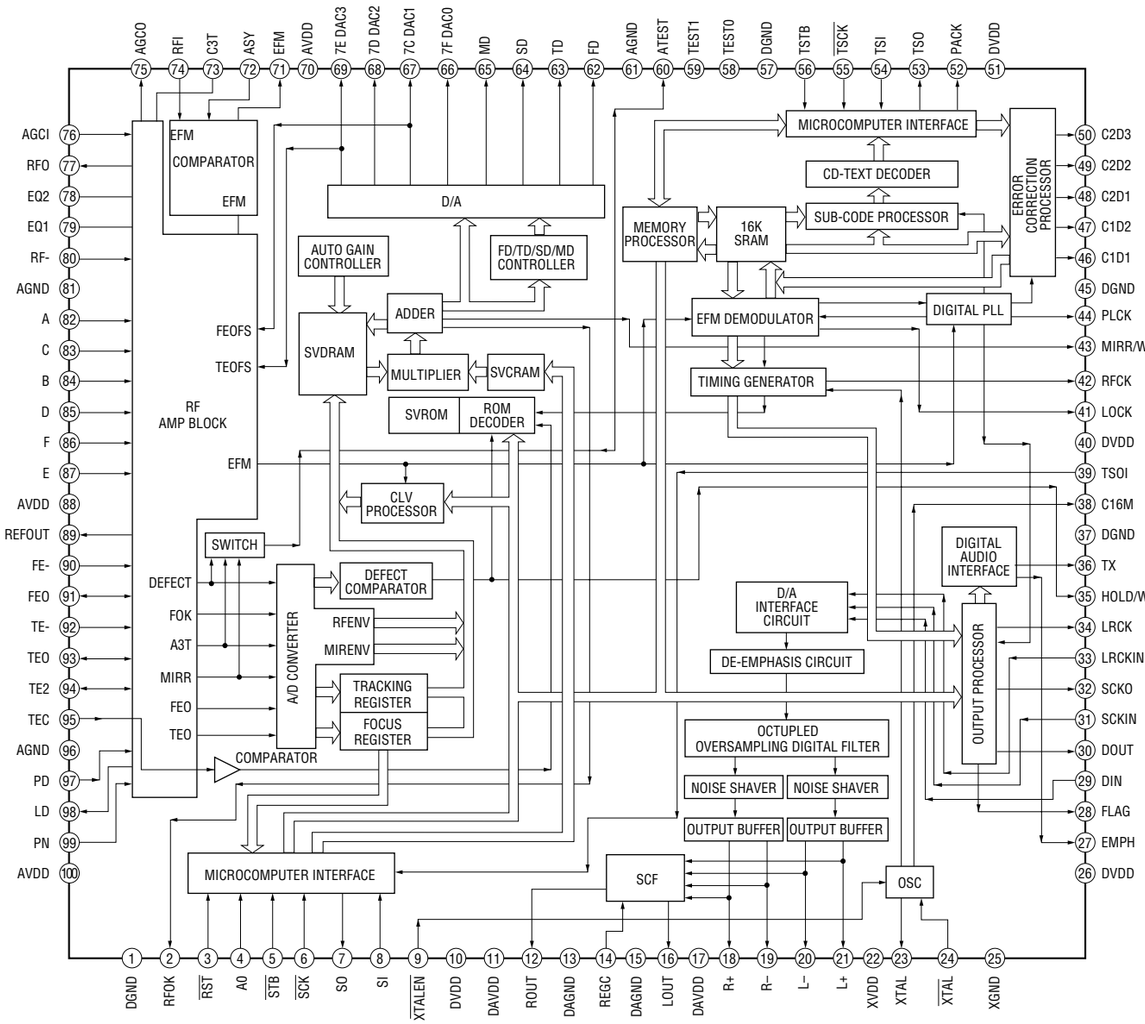


Note:

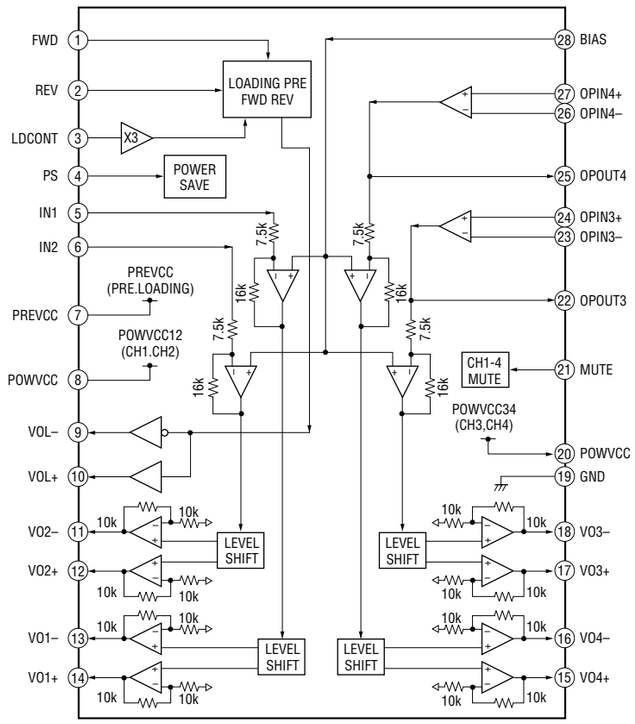
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

• **IC Block Diagrams**

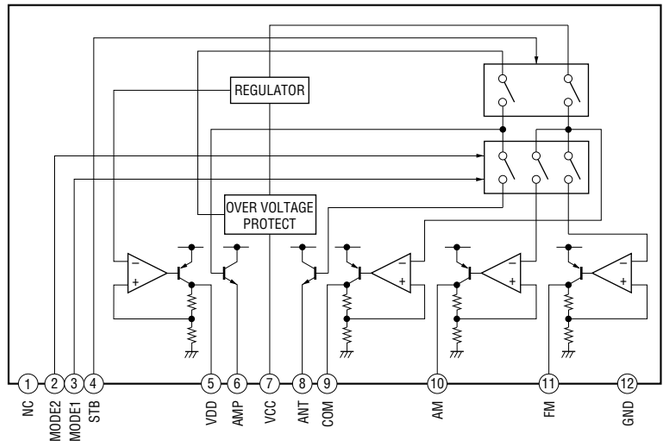
IC1 µPD63711GC-8EU



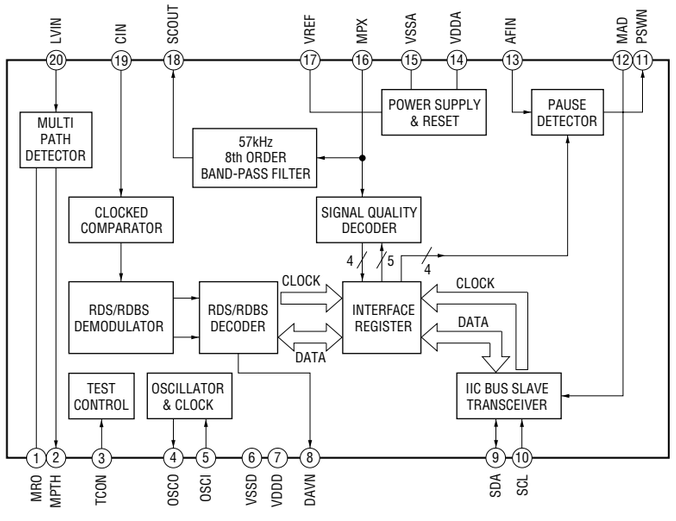
IC2 BA5810FP-E2



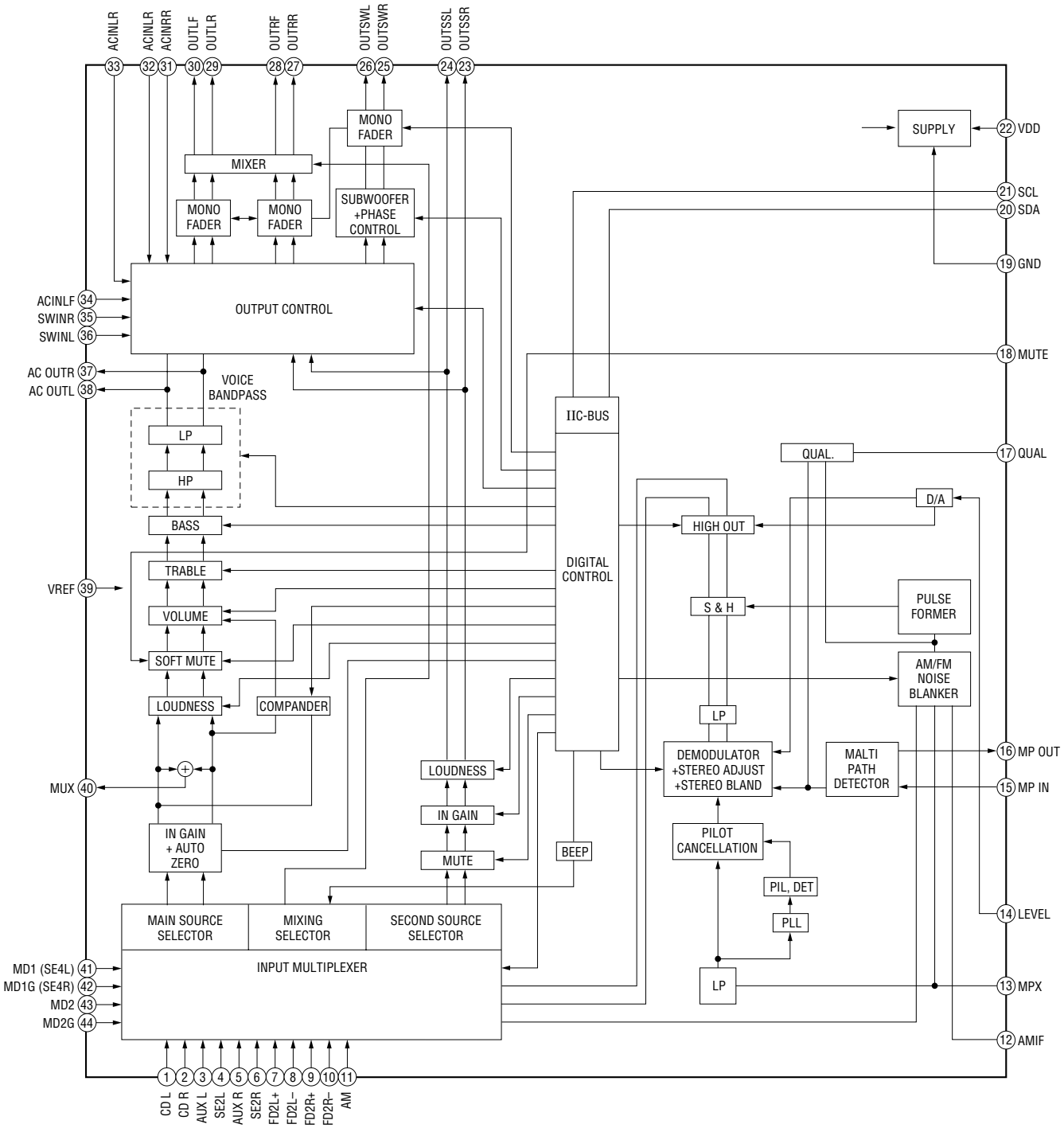
IC601 BA4908-V3



IC51 SAA6588T/V2



IC401 TDA7402TR



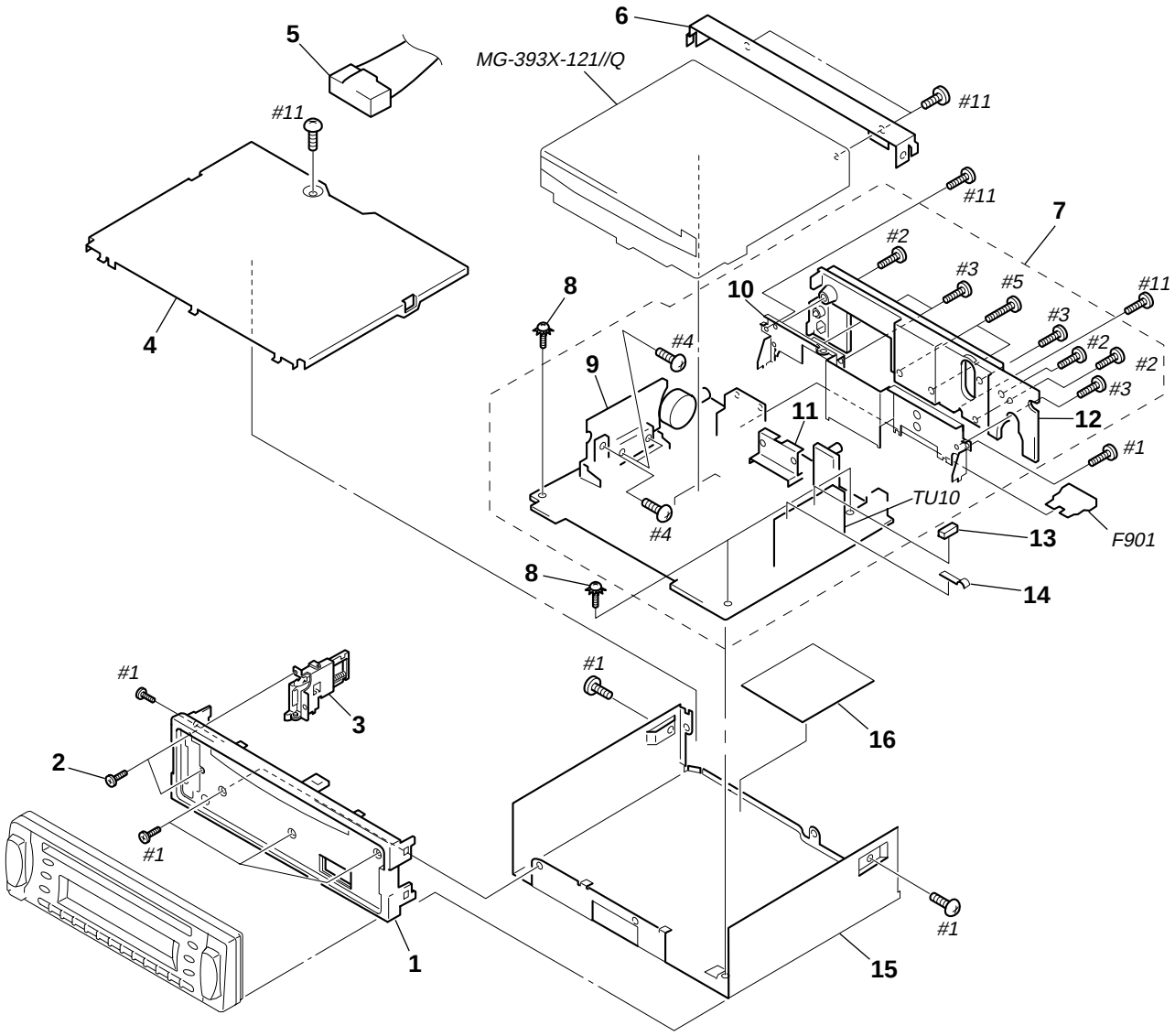
SECTION 4
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories are given in the last of this parts list.

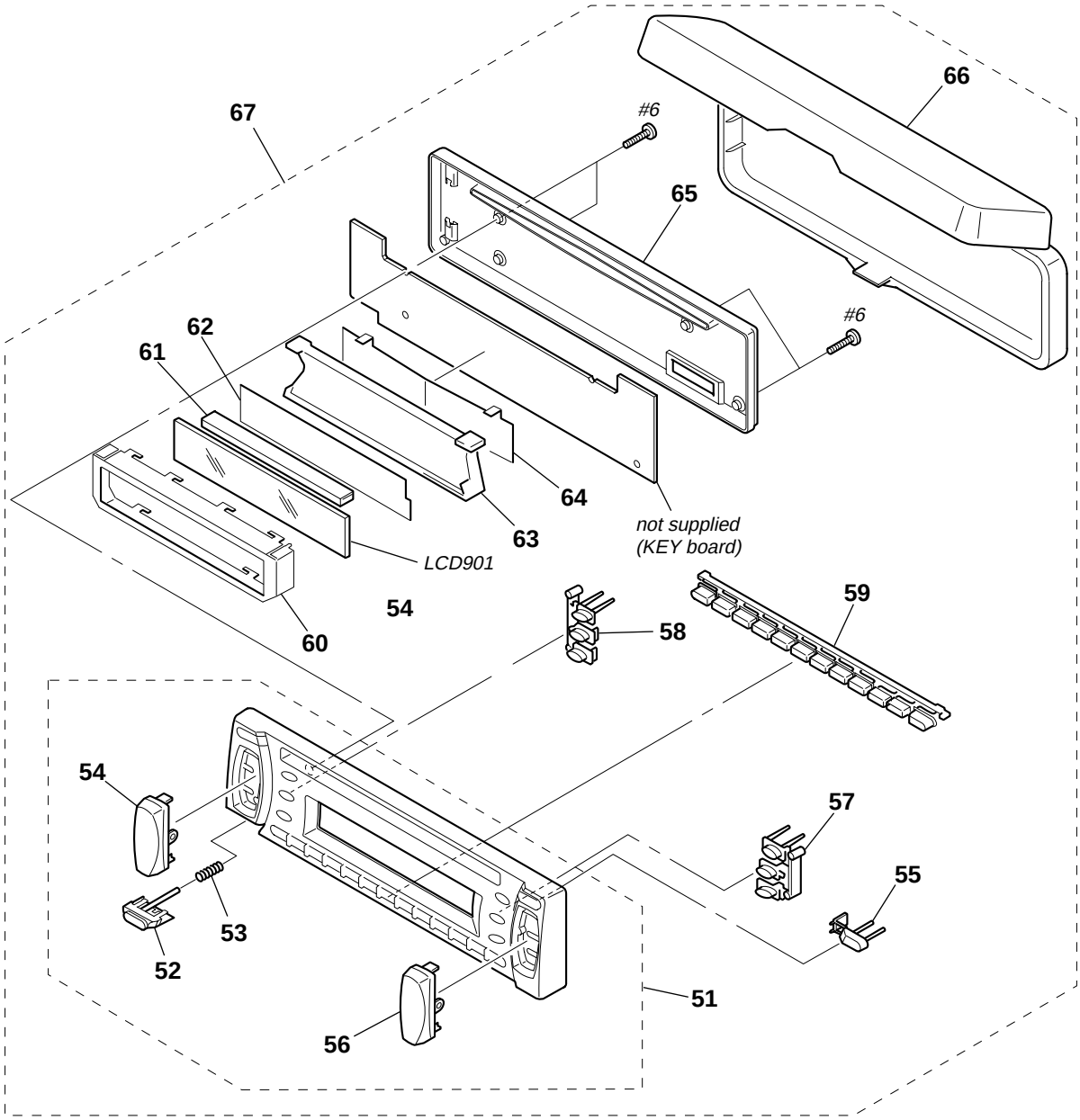
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

4-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	X-3380-162-4	PANEL SUB ASSY, SUB	
2	3-042-244-11	SCREW (T)	
3	X-3379-876-3	LOCK ASSY (S)	
4	3-223-782-21	COVER	
5	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	
6	3-041-012-11	BRACKET (CD)	
7	A-3340-220-A	MAIN BOARD, COMPLETE	
8	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 9	3-225-136-01	HEAT SINK (REG)	
* 10	3-225-271-02	CHASSIS (BACK)	
* 11	3-040-998-01	BRACKET (IC)	
12	3-235-386-01	HEAT SINK (CD)	
* 13	3-045-877-02	CUSHION (TU)	
* 14	3-045-878-01	PLATE (TU), GROUND	
15	3-225-133-11	CHASSIS	
16	3-231-821-01	PLATE, INSULATED	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU10	A-3220-812-A	TUNER UNIT (TUX-020)	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-685-795-09	SCREW +PTT 2.6X12 (S)	
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#5	7-685-797-09	SCREW +PTT 2.6X16 (S)	
#11	7-685-791-09	SCREW +PTT 2.6X5 (S)	

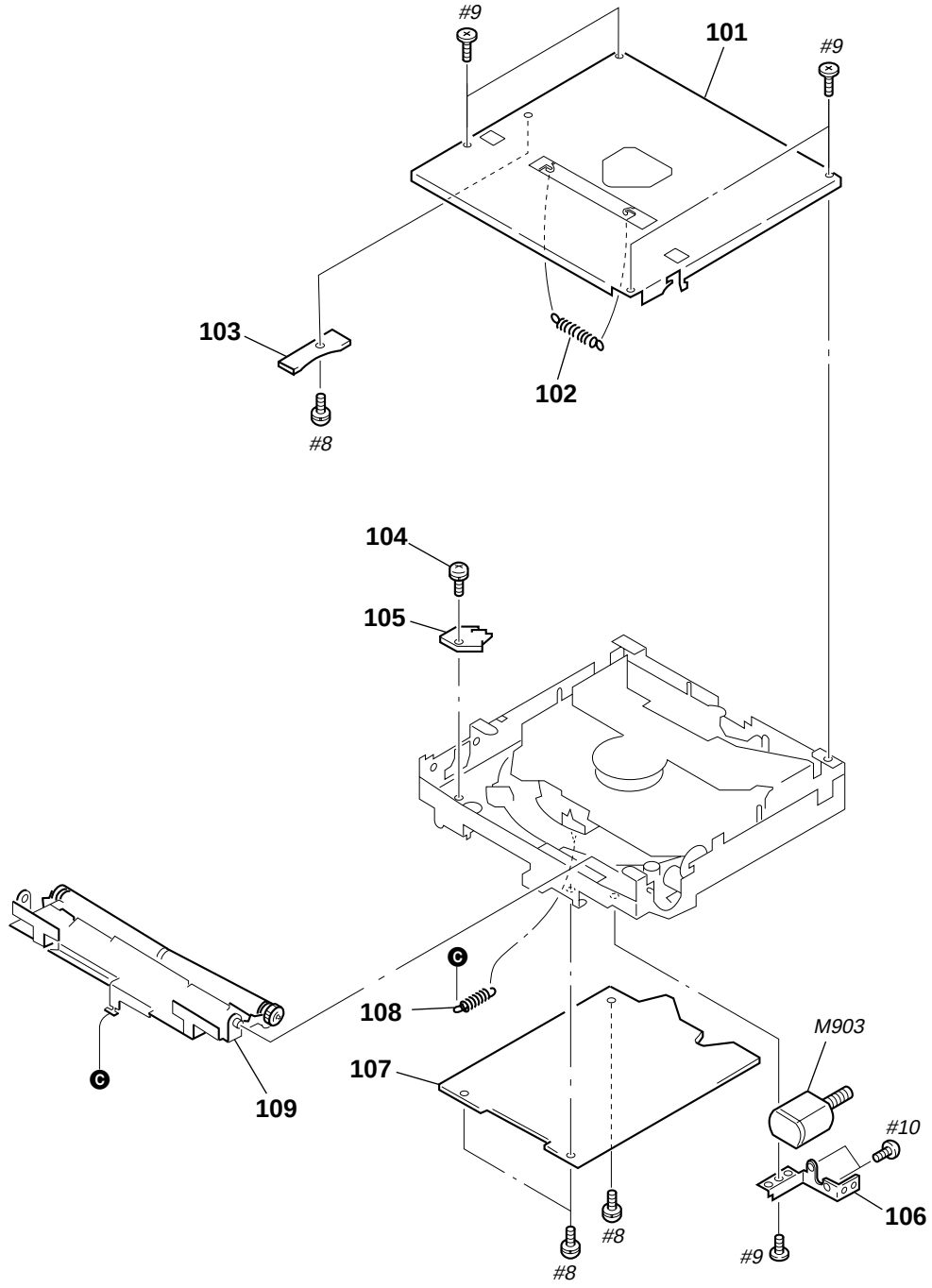
4-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-3381-276-1	PANEL SUB ASSY, FRONT	
52	3-224-869-03	BUTTON (RELEASE/U)	
53	3-231-816-01	SPRING (RELEASE)	
54	3-224-863-12	BUTTON (+/–)	
55	3-235-383-01	BUTTON (EJECT)	
56	3-224-864-03	BUTTON (S/A)	
57	3-235-385-01	BUTTON (R)	
58	3-235-384-01	BUTTON (L)	
59	3-225-123-11	BUTTON (PRESET/CE)	
60	3-235-382-01	PLATE (LCD), GROUND	

Ref. No.	Part No.	Description	Remark
61	1-694-781-11	CONDUCTIVE BOARD, CONNECTION	
62	3-235-387-01	ILLUMINATOR (LCD)	
63	3-235-381-01	PLATE (LCD), LIGHT GUIDE	
64	3-235-388-01	REFLECTOR (LCD)	
65	3-235-380-01	PANEL (CD), FRONT BACK	
66	X-3378-490-2	CASE (PANEL) ASSY (for FRONT PANEL)	
* 67	A-3307-998-A	PANEL COMPLETE ASSY, FRONT	
LCD901	1-804-624-11	DISPLAY PANEL, LIQUID CRYSTAL	
#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	

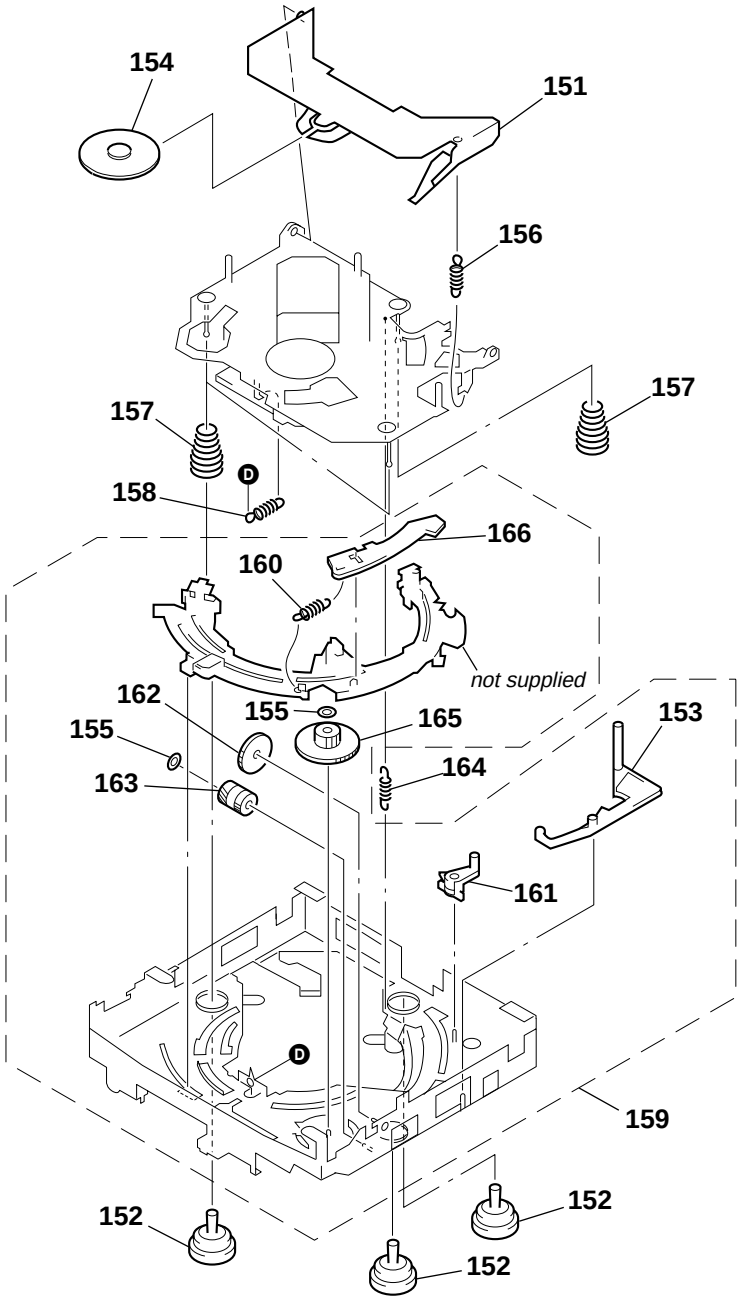
4-3. CD MECHANISM SECTION (1)
(MG-393X-121//Q)



Ref. No.	Part No.	Description	Remark
101	A-3315-247-B	CHASSIS (T.U) ASSY	
102	3-931-909-01	SPRING (LR), TENSION	
* 103	1-659-836-11	DISC IN BOARD	
104	3-338-737-01	SCREW (2X3), +PS	
* 105	1-659-837-11	LOAD BOARD	
* 106	3-039-629-02	BRACKET (MOTOR)	
* 107	A-3283-047-A	SERVO BOARD, COMPLETE	

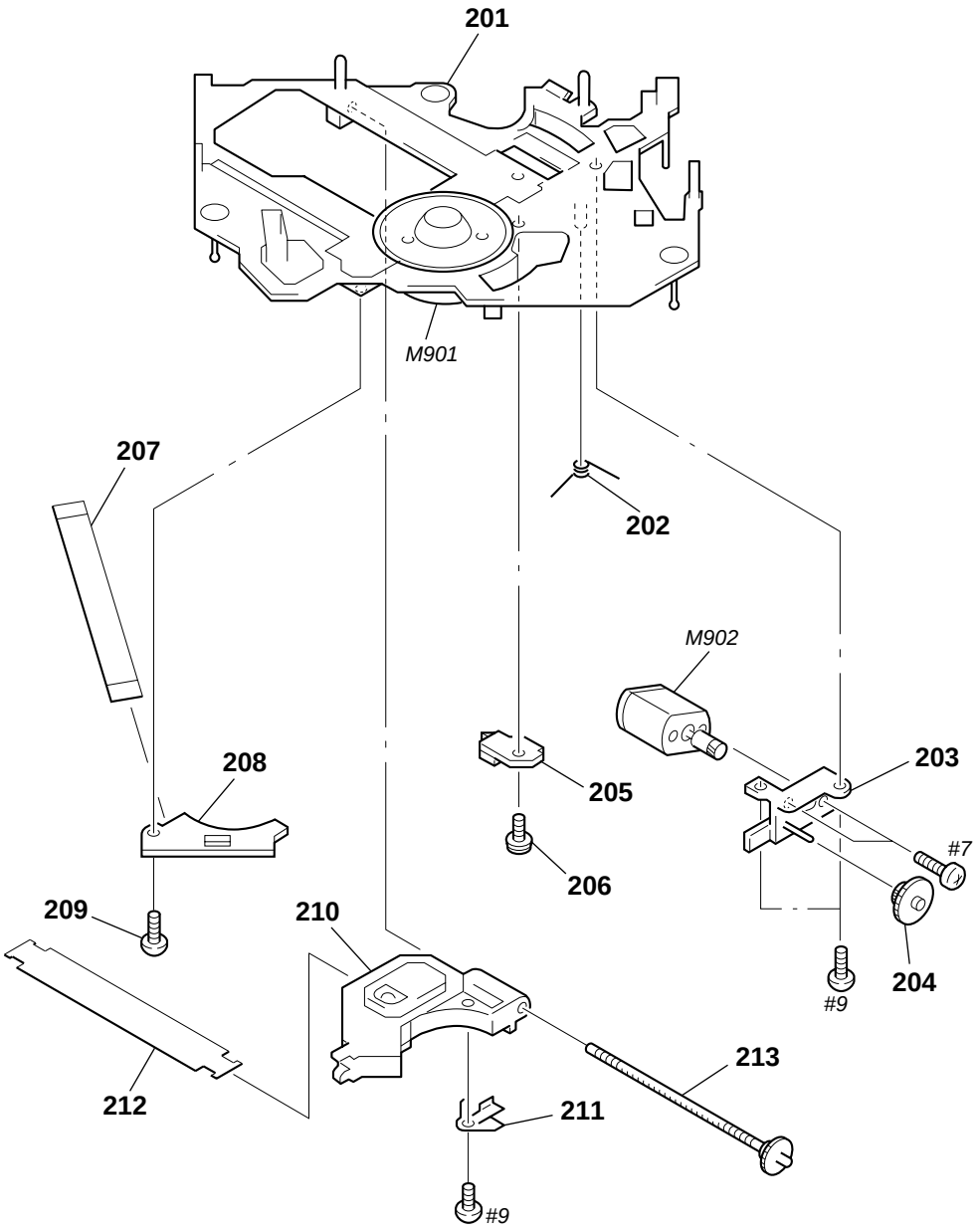
Ref. No.	Part No.	Description	Remark
108	3-225-784-01	SPRING (RA3), TENSION	
109	A-3315-040-A	ROLLER ASSY, ARM	
M903	A-3315-039-A	MOTOR SUB ASSY, LD (LOADING)	
#8	7-628-253-00	SCREW +PS 2X4	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#10	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	

4-4. CD MECHANISM SECTION (2)
(MG-393X-121//Q)



Ref. No.	Part No.	Description	Remark
151	X-3378-956-8	ARM ASSY, CHUCKING	
152	3-931-897-61	DAMPER (T)	
153	3-039-627-01	LEVER (D)	
154	3-040-165-02	RETAINER (DISC)	
155	3-018-272-01	WASHER	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	
158	3-032-483-02	SPRING (KF1), TENSION	
159	A-3315-243-C	CHASSIS (M) ASSY	
160	3-220-180-01	SPRING (TR2), TENSION	
161	3-931-881-03	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-11	WHEEL (U), WORM	
164	3-032-484-01	SPRING (KR1), TENSION	
165	3-014-727-01	WHEEL (LW), WORM	
166	3-039-626-01	LEVER (TR)	

4-5. CD MECHANISM SECTION (3)
(MG-393X-121//Q)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
201	X-3378-598-2	CHASSIS (OP) ASSY (including M901)	
202	3-043-494-01	SPRING (SL), TORSION	
203	3-040-170-01	BASE (DRIVING)	
204	3-040-419-01	GEAR (MIDWAY)	
* 205	1-659-835-12	LIMIT BOARD	
206	3-338-737-01	SCREW (2X3), +PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠210	8-820-103-11	PICK-UP, OPTICAL KSS-720A/C-RP	
211	3-025-743-01	SPRING (FEED), LEAF	
212	1-676-707-21	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
#7	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	

SECTION 5
ELECTRICAL PARTS LIST

DISC IN | KEY

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISC IN BOARD			
		**********			
		< SWITCH >			
SW1	1-529-566-31	SWITCH, PUSH (1 KEY) (DISC IN)			
SW2	1-529-566-31	SWITCH, PUSH (1 KEY) (SELF)			
**********					
		KEY BOARD			
		**********			
	1-694-781-11	CONDUCTIVE BOARD, CONNECTION			
	3-235-381-01	PLATE (LCD), LIGHT GUIDE			
	3-235-382-01	PLATE (LCD), GROUND			
	3-235-387-01	ILLUMINATOR (LCD)			
	3-235-388-01	REFLECTOR (LCD)			
		< CAPACITOR >			
C991	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C992	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C993	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C994	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C995	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
		< CONNECTOR >			
CN901	1-794-312-11	PIN, CONNECTOR 12P			
		< DIODE >			
D902	8-719-085-72	DIODE UMZ6.8ENTR			
D991	8-719-976-99	DIODE DTZ5.1B			
		< IC >			
IC901	8-759-365-90	IC LC75824W			
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-804-624-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED921	8-719-061-16	LED CL-190SR-CD-T (DISC IND L)			
LED922	8-719-061-16	LED CL-190SR-CD-T (DISC IND R)			
		< SWITCH >			
LSW900	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (⏏)			
LSW901	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (OFF)			
LSW902	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SRC (SOURCE))			
LSW903	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (+ (VOL))			
LSW904	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (– (VOL))			
LSW905	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (MODE)			
LSW906	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SEL)			
LSW907	1-771-883-11	SWITCH, TACTILE (WITH LED) (ATT)			
LSW908	1-771-883-11	SWITCH, TACTILE (WITH LED) (SENS/BTM)			
LSW909	1-771-883-11	SWITCH, TACTILE (WITH LED) (AF)			
LSW910	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (⏮ ⏪ – (SEEK/AMS))			
LSW911	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (+ ⏩ ⏭ (SEEK/AMS))			
LSW912	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (MBP)			
LSW913	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (D (D-BASS))			
LSW914	1-771-883-11	SWITCH, TACTILE (WITH LED) (DSPL)			
LSW915	1-771-883-11	SWITCH, TACTILE (WITH LED) (PTY)			
LSW916	1-771-883-11	SWITCH, TACTILE (WITH LED) (TA)			
LSW917	1-771-883-11	SWITCH, TACTILE (WITH LED) (6)			
LSW918	1-771-883-11	SWITCH, TACTILE (WITH LED) (5)			
LSW919	1-771-883-11	SWITCH, TACTILE (WITH LED) (4/SHUF)			
LSW920	1-771-883-11	SWITCH, TACTILE (WITH LED) (3/REP)			
LSW921	1-771-883-11	SWITCH, TACTILE (WITH LED) (2)			
LSW922	1-771-883-11	SWITCH, TACTILE (WITH LED) (1)			
		< PILOT LAMP >			
PL901	1-518-743-11	LAMP, PILOT (LCD BACK LIGHT)			
PL902	1-518-743-11	LAMP, PILOT (LCD BACK LIGHT)			
		< RESISTOR >			
R901	1-216-819-11	METAL CHIP	680	5%	1/16W
R902	1-216-819-11	METAL CHIP	680	5%	1/16W
R903	1-216-819-11	METAL CHIP	680	5%	1/16W
R904	1-216-821-11	METAL CHIP	1K	5%	1/16W
R905	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R907	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R908	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R909	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R910	1-216-819-11	METAL CHIP	680	5%	1/16W
R911	1-216-819-11	METAL CHIP	680	5%	1/16W
R912	1-216-819-11	METAL CHIP	680	5%	1/16W
R913	1-216-821-11	METAL CHIP	1K	5%	1/16W
R914	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R915	1-216-823-11	METAL CHIP	1.5K	5%	1/16W

KEY | LIMIT | LOAD | MAIN

Ref. No.	Part No.	Description			Remark
R916	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R917	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-218-867-11	RES-CHIP	6.8K	5%	1/16W
R920	1-216-833-11	METAL CHIP	10K	5%	1/16W
R921	1-216-835-11	METAL CHIP	15K	5%	1/16W
R941	1-216-797-11	METAL CHIP	10	5%	1/16W
R942	1-216-797-11	METAL CHIP	10	5%	1/16W
R947	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R948	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R949	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R951	1-216-821-11	METAL CHIP	1K	5%	1/16W
R952	1-216-819-11	METAL CHIP	680	5%	1/16W
R953	1-216-819-11	METAL CHIP	680	5%	1/16W
R954	1-216-819-11	METAL CHIP	680	5%	1/16W
R955	1-216-819-11	METAL CHIP	680	5%	1/16W
R956	1-216-819-11	METAL CHIP	680	5%	1/16W
R957	1-216-821-11	METAL CHIP	1K	5%	1/16W
R961	1-216-821-11	METAL CHIP	1K	5%	1/16W
R962	1-216-819-11	METAL CHIP	680	5%	1/16W
R963	1-216-819-11	METAL CHIP	680	5%	1/16W
R964	1-216-819-11	METAL CHIP	680	5%	1/16W
R965	1-216-819-11	METAL CHIP	680	5%	1/16W
R966	1-216-819-11	METAL CHIP	680	5%	1/16W
R967	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R971	1-216-821-11	METAL CHIP	1K	5%	1/16W
R972	1-216-819-11	METAL CHIP	680	5%	1/16W
R973	1-216-819-11	METAL CHIP	680	5%	1/16W
R974	1-216-819-11	METAL CHIP	680	5%	1/16W
R975	1-216-819-11	METAL CHIP	680	5%	1/16W
R976	1-216-819-11	METAL CHIP	680	5%	1/16W
R977	1-216-821-11	METAL CHIP	1K	5%	1/16W
R981	1-216-821-11	METAL CHIP	1K	5%	1/16W
R982	1-216-821-11	METAL CHIP	1K	5%	1/16W
R983	1-216-821-11	METAL CHIP	1K	5%	1/16W
R984	1-216-813-11	METAL CHIP	220	5%	1/16W
R985	1-216-813-11	METAL CHIP	220	5%	1/16W
R990	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R991	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R992	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R993	1-216-864-11	METAL CHIP	0	5%	1/16W
R994	1-216-851-11	METAL CHIP	330K	5%	1/16W
R995	1-216-857-11	METAL CHIP	1M	5%	1/16W
R996	1-216-821-11	METAL CHIP	1K	5%	1/16W
R997	1-216-821-11	METAL CHIP	1K	5%	1/16W
R998	1-216-821-11	METAL CHIP	1K	5%	1/16W

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Ref. No.	Part No.	Description			Remark
*	1-659-835-12	LIMIT BOARD			
		**********			
		< SWITCH >			
SW3	1-529-565-41	SWITCH, PUSH (1 KEY) (LIMIT)			

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*	1-659-837-11	LOAD BOARD			
		**********			
		< SWITCH >			
SW4	1-529-566-31	SWITCH, PUSH (1 KEY) (DOWN)			

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	A-3340-220-A	MAIN BOARD, COMPLETE			
		**********			
*	3-040-998-01	BRACKET (IC)			
*	3-225-136-01	HEAT SINK (REG)			
*	3-225-271-02	CHASSIS (BACK)			
	3-235-386-01	HEAT SINK (CD)			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-795-09	SCREW +PTT 2.6X12 (S)			
	7-685-797-09	SCREW +PTT 2.6X16 (S)			
		< CAPACITOR >			
C11	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C14	1-124-584-00	ELECT	100uF	20%	10V
C15	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C16	1-124-584-00	ELECT	100uF	20%	10V
C17	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C21	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C22	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C23	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C24	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C25	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C26	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C27	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C28	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C29	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C31	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C32	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C33	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C41	1-125-837-00	CERAMIC CHIP	1uF	10%	6.3V
C42	1-125-837-00	CERAMIC CHIP	1uF	10%	6.3V
C51	1-124-589-11	ELECT	47uF	20%	16V
C52	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C53	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C54	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C55	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C56	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C57	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C58	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C59	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C61	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C62	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C63	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C64	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-124-234-00	ELECT	22uF	20%	16V
C302	1-124-234-00	ELECT	22uF	20%	16V
C303	1-124-234-00	ELECT	22uF	20%	16V
C305	1-124-584-00	ELECT	100uF	20%	10V
C331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C332	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C341	1-124-234-00	ELECT	22uF	20%	16V
C342	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C343	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-124-589-11	ELECT	47uF	20%	16V
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C403	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C404	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C405	1-124-233-11	ELECT	10uF	20%	16V
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C411	1-124-233-11	ELECT	10uF	20%	16V
C412	1-124-233-11	ELECT	10uF	20%	16V
C431	1-124-233-11	ELECT	10uF	20%	16V
C433	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C434	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C441	1-124-233-11	ELECT	10uF	20%	16V
C442	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C444	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C451	1-124-233-11	ELECT	10uF	20%	16V
C453	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C454	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C455	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C461	1-124-233-11	ELECT	10uF	20%	16V
C463	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C464	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C465	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C471	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C473	1-124-233-11	ELECT	10uF	20%	16V
C474	1-126-160-11	ELECT	1uF	20%	50V
C475	1-126-157-11	ELECT	10uF	20%	16V
C477	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C479	1-124-589-11	ELECT	47uF	20%	16V
C480	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C501	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C502	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C503	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C504	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C505	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C506	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C510	1-124-584-00	ELECT	100uF	20%	10V
C511	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C512	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C513	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C529	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-135-473-21	ELECT	3300uF	20%	16V
C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C611	1-126-157-11	ELECT	10uF	20%	16V
C612	1-126-157-11	ELECT	10uF	20%	16V
C613	1-126-157-11	ELECT	10uF	20%	16V
C614	1-126-157-11	ELECT	10uF	20%	16V
C617	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C618	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C621	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C622	1-125-710-11	DOUBLE LAYERS	0.1F		5.5V
C631	1-124-257-00	ELECT	2.2uF	20%	50V
C661	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C802	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C804	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C806	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V

< CONNECTOR >

CN701	1-794-311-21	PLUG, CONNECTOR 12P
CNP301	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P
CNP601	1-774-701-11	PIN, CONNECTOR 16P

< DIODE >

D21	8-719-404-50	DIODE MA111-TX
D22	8-719-404-50	DIODE MA111-TX
D23	8-719-976-99	DIODE DTZ5.1B
D331	8-719-056-84	DIODE UDZ-TE-17-7.5B
D332	8-719-056-83	DIODE UDZ-TE-17-6.8B
D341	8-719-158-15	DIODE RD5.6S-B
D471	8-719-079-55	DIODE PTZ-TE25-22
D472	8-719-079-55	DIODE PTZ-TE25-22
D473	8-719-079-55	DIODE PTZ-TE25-22
D474	8-719-079-55	DIODE PTZ-TE25-22
D475	8-719-079-55	DIODE PTZ-TE25-22
D476	8-719-079-55	DIODE PTZ-TE25-22
D477	8-719-079-55	DIODE PTZ-TE25-22
D478	8-719-079-55	DIODE PTZ-TE25-22
D479	8-719-404-50	DIODE MA111-TX
D480	8-719-158-15	DIODE RD5.6S-B
D551	8-719-056-84	DIODE UDZ-TE-17-7.5B
D556	8-719-057-80	DIODE MA8180-M-TX
D601	8-719-049-38	DIODE 1N5404TU
D609	8-719-056-83	DIODE UDZ-TE-17-6.8B
D610	8-719-056-65	DIODE 1SS372-TE85L
D612	8-719-053-18	DIODE 1SR154-400TE-25
D613	8-719-053-18	DIODE 1SR154-400TE-25
D614	8-719-053-18	DIODE 1SR154-400TE-25
D621	8-719-067-56	DIODE MA112-TX
D651	8-719-057-80	DIODE MA8180-M-TX
D671	8-719-404-50	DIODE MA111-TX

MAIN

Ref. No.	Part No.	Description	Remark
D701	8-719-404-50	DIODE MA111-TX	
D710	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D711	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D715	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D716	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D717	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D718	8-719-056-83	DIODE UDZ-TE-17-6.8B	
		< IC >	
IC20	8-759-100-96	IC uPC4558G2	
IC51	8-759-492-59	IC SAA6588T-118	
IC401	8-759-653-27	IC TDA7402TR	
IC404	8-759-827-12	IC TA8272H	
IC501	6-800-278-02	IC MN101C49KTD2	
IC601	8-759-661-47	IC BA4908-V3	
IC602	8-759-682-69	IC XC61CN4302MR	
		< JACK >	
J10	1-815-185-12	JACK (ANTENNA)	
J401	1-774-698-11	JACK, PIN 2P (AUDIO OUT REAR)	
		< JUMPER RESISTOR >	
JC301	1-216-864-11	METAL CHIP 0 5%	1/16W
JC302	1-216-864-11	METAL CHIP 0 5%	1/16W
JC471	1-216-296-11	SHORT 0	
JC472	1-216-864-11	METAL CHIP 0 5%	1/16W
JC473	1-216-296-11	SHORT 0	
JC601	1-216-296-11	SHORT 0	
JC602	1-216-296-11	SHORT 0	
JC801	1-216-296-11	SHORT 0	
		< COIL >	
L500	1-419-476-11	COIL, CHOKE 250uH	
		< TRANSISTOR >	
Q21	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q22	8-729-900-53	TRANSISTOR DTC114EK	
Q331	8-729-021-82	TRANSISTOR 2SD2396K	
Q332	8-729-047-76	TRANSISTOR FMC2A-T148	
Q333	8-729-900-53	TRANSISTOR DTC114EK	
Q341	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q431	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q441	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q451	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q461	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q478	8-729-900-53	TRANSISTOR DTC114EK	
Q479	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q551	8-729-900-53	TRANSISTOR DTC114EK	
Q556	8-729-900-53	TRANSISTOR DTC114EK	
Q557	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q631	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q651	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

Ref. No.	Part No.	Description	Remark
Q661	8-729-106-60	TRANSISTOR 2SB1115A	
Q662	8-729-900-53	TRANSISTOR DTC114EK	
Q664	8-729-027-23	TRANSISTOR DTA114EKA-T146	
		< RESISTOR >	
R21	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R22	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R23	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R24	1-216-833-11	METAL CHIP 10K 5%	1/16W
R25	1-216-833-11	METAL CHIP 10K 5%	1/16W
R26	1-216-809-11	METAL CHIP 100 5%	1/16W
R27	1-216-845-11	METAL CHIP 100K 5%	1/16W
R28	1-216-857-11	METAL CHIP 1M 5%	1/16W
R29	1-216-809-11	METAL CHIP 100 5%	1/16W
R31	1-218-867-11	RES-CHIP 6.8K 5%	1/16W
R32	1-216-845-11	METAL CHIP 100K 5%	1/16W
R41	1-216-841-11	METAL CHIP 47K 5%	1/16W
R52	1-216-853-11	METAL CHIP 470K 5%	1/16W
R53	1-216-821-11	METAL CHIP 1K 5%	1/16W
R54	1-216-837-11	METAL CHIP 22K 5%	1/16W
R56	1-216-797-11	METAL CHIP 10 5%	1/16W
R57	1-216-817-11	METAL CHIP 470 5%	1/16W
R60	1-216-797-11	METAL CHIP 10 5%	1/16W
R331	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R332	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R333	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R334	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R341	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R342	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R403	1-216-841-11	METAL CHIP 47K 5%	1/16W
R431	1-216-809-11	METAL CHIP 100 5%	1/16W
R432	1-216-841-11	METAL CHIP 47K 5%	1/16W
R433	1-216-833-11	METAL CHIP 10K 5%	1/16W
R434	1-216-809-11	METAL CHIP 100 5%	1/16W
R441	1-216-809-11	METAL CHIP 100 5%	1/16W
R442	1-216-841-11	METAL CHIP 47K 5%	1/16W
R443	1-216-833-11	METAL CHIP 10K 5%	1/16W
R444	1-216-809-11	METAL CHIP 100 5%	1/16W
R451	1-216-809-11	METAL CHIP 100 5%	1/16W
R452	1-216-841-11	METAL CHIP 47K 5%	1/16W
R453	1-216-833-11	METAL CHIP 10K 5%	1/16W
R454	1-216-809-11	METAL CHIP 100 5%	1/16W
R461	1-216-809-11	METAL CHIP 100 5%	1/16W
R462	1-216-841-11	METAL CHIP 47K 5%	1/16W
R463	1-216-833-11	METAL CHIP 10K 5%	1/16W
R464	1-216-809-11	METAL CHIP 100 5%	1/16W
R471	1-216-841-11	METAL CHIP 47K 5%	1/16W
R472	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R473	1-216-821-11	METAL CHIP 1K 5%	1/16W
R474	1-216-833-11	METAL CHIP 10K 5%	1/16W
R479	1-216-805-11	METAL CHIP 47 5%	1/16W
R480	1-216-864-11	METAL CHIP 0 5%	1/16W
R501	1-216-837-11	METAL CHIP 22K 5%	1/16W

Ref. No.	Part No.	Description			Remark
R502	1-216-813-11	METAL CHIP	220	5%	1/16W
R503	1-216-845-11	METAL CHIP	100K	5%	1/16W
R504	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R505	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R506	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R508	1-216-845-11	METAL CHIP	100K	5%	1/16W
R509	1-216-813-11	METAL CHIP	220	5%	1/16W
R510	1-216-809-11	METAL CHIP	100	5%	1/16W
R511	1-216-809-11	METAL CHIP	100	5%	1/16W
R512	1-216-809-11	METAL CHIP	100	5%	1/16W
R514	1-216-809-11	METAL CHIP	100	5%	1/16W
R515	1-216-809-11	METAL CHIP	100	5%	1/16W
R516	1-216-809-11	METAL CHIP	100	5%	1/16W
R517	1-216-809-11	METAL CHIP	100	5%	1/16W
R519	1-216-845-11	METAL CHIP	100K	5%	1/16W
R520	1-216-845-11	METAL CHIP	100K	5%	1/16W
R521	1-216-845-11	METAL CHIP	100K	5%	1/16W
R522	1-216-845-11	METAL CHIP	100K	5%	1/16W
R524	1-216-845-11	METAL CHIP	100K	5%	1/16W
R525	1-216-845-11	METAL CHIP	100K	5%	1/16W
R526	1-216-845-11	METAL CHIP	100K	5%	1/16W
R527	1-216-845-11	METAL CHIP	100K	5%	1/16W
R528	1-216-845-11	METAL CHIP	100K	5%	1/16W
R529	1-216-833-11	METAL CHIP	10K	5%	1/16W
R530	1-216-833-11	METAL CHIP	10K	5%	1/16W
R551	1-216-821-11	METAL CHIP	1K	5%	1/16W
R555	1-216-841-11	METAL CHIP	47K	5%	1/16W
R556	1-216-821-11	METAL CHIP	1K	5%	1/16W
R557	1-216-841-11	METAL CHIP	47K	5%	1/16W
R609	1-216-821-11	METAL CHIP	1K	5%	1/16W
R631	1-216-222-00	RES-CHIP	10K	5%	1/8W
R632	1-216-841-11	METAL CHIP	47K	5%	1/16W
R633	1-216-841-11	METAL CHIP	47K	5%	1/16W
R634	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R636	1-216-845-11	METAL CHIP	100K	5%	1/16W
R638	1-216-222-00	RES-CHIP	10K	5%	1/8W
R651	1-216-821-11	METAL CHIP	1K	5%	1/16W
R652	1-216-841-11	METAL CHIP	47K	5%	1/16W
R653	1-216-833-11	METAL CHIP	10K	5%	1/16W
R654	1-216-833-11	METAL CHIP	10K	5%	1/16W
R660	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R661	1-216-833-11	METAL CHIP	10K	5%	1/16W
R662	1-249-399-11	CARBON	33	5%	1/4W
R663	1-249-399-11	CARBON	33	5%	1/4W
R664	1-249-399-11	CARBON	33	5%	1/4W
R665	1-249-399-11	CARBON	33	5%	1/4W
R671	1-216-809-11	METAL CHIP	100	5%	1/16W
R672	1-216-809-11	METAL CHIP	100	5%	1/16W
R673	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R674	1-216-833-11	METAL CHIP	10K	5%	1/16W
R701	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R702	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R710	1-216-809-11	METAL CHIP	100	5%	1/16W
R711	1-216-809-11	METAL CHIP	100	5%	1/16W
		< SWITCH >			
S702	1-692-431-21	SWITCH, TACTILE (RESET)			
		< TUNER >			
TU10	A-3220-812-A	TUNER UNIT (TUX-020)			
		< VIBRATOR >			
X51	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHz)			
X501	1-781-294-21	VIBRATOR, CRYSTAL (18.432MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	A-3283-047-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C3	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C4	1-104-609-11	ELECT CHIP	100uF	20%	4V
C5	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C6	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C7	1-126-394-11	ELECT CHIP	10uF	20%	16V
C8	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C9	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C10	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C11	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C13	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C14	1-125-837-00	CERAMIC CHIP	1uF	10%	6.3V
C15	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C16	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C18	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C19	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C20	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C21	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C22	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C23	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C24	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C25	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C26	1-126-391-11	ELECT CHIP	47uF	20%	6.3V
C27	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C28	1-126-391-11	ELECT CHIP	47uF	20%	6.3V
C29	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C30	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C31	1-126-391-11	ELECT CHIP	47uF	20%	6.3V
C34	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C35	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C36	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C37	1-126-393-11	ELECT CHIP	33uF	20%	10V
C38	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V

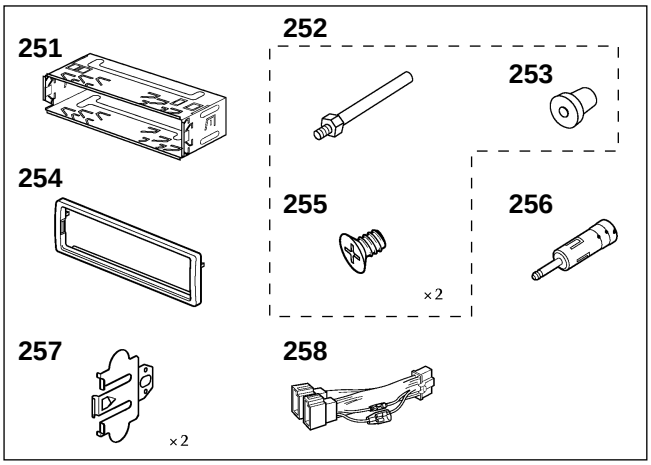
SERVO **SUB**

Ref. No.	Part No.	Description			Remark
C39	1-126-391-11	ELECT CHIP	47uF	20%	6.3V
C40	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C41	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C43	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C44	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-794-153-21	CONNECTOR, FPC (ZIF) 16P			
CN3	1-770-347-21	CONNECTOR, FPC 6P			
		< JUMPER RESISTOR >			
FB1	1-216-864-11	METAL CHIP	0	5%	1/16W
FB2	1-216-864-11	METAL CHIP	0	5%	1/16W
FB4	1-216-864-11	METAL CHIP	0	5%	1/16W
FB5	1-216-295-11	SHORT	0		
FB6	1-216-864-11	METAL CHIP	0	5%	1/16W
FB7	1-216-864-11	METAL CHIP	0	5%	1/16W
		< IC >			
IC1	8-759-699-98	IC uPD63711GC-8EU			
IC2	8-759-658-87	IC BA5810FP-E2			
		< TRANSISTOR >			
Q1	8-729-904-87	TRANSISTOR 2SB1197K-R			
		< RESISTOR >			
R3	1-216-797-11	METAL CHIP	10	5%	1/16W
R5	1-218-344-11	RES-CHIP	7.5K	5%	1/16W
R6	1-216-837-11	METAL CHIP	22K	5%	1/16W
R7	1-216-839-11	METAL CHIP	33K	5%	1/16W
R8	1-216-833-11	METAL CHIP	10K	5%	1/16W
R9	1-216-840-11	METAL CHIP	39K	5%	1/16W
R10	1-216-835-11	METAL CHIP	15K	5%	1/16W
R12	1-216-837-11	METAL CHIP	22K	5%	1/16W
R14	1-216-841-11	METAL CHIP	47K	5%	1/16W
R15	1-216-841-11	METAL CHIP	47K	5%	1/16W
R17	1-216-809-11	METAL CHIP	100	5%	1/16W
R18	1-216-809-11	METAL CHIP	100	5%	1/16W
R19	1-216-809-11	METAL CHIP	100	5%	1/16W
R20	1-216-809-11	METAL CHIP	100	5%	1/16W
R21	1-216-821-11	METAL CHIP	1K	5%	1/16W
R22	1-216-821-11	METAL CHIP	1K	5%	1/16W
R24	1-216-864-11	METAL CHIP	0	5%	1/16W
R25	1-216-864-11	METAL CHIP	0	5%	1/16W
R26	1-216-797-11	METAL CHIP	10	5%	1/16W
R29	1-216-833-11	METAL CHIP	10K	5%	1/16W
R30	1-216-833-11	METAL CHIP	10K	5%	1/16W
R31	1-216-789-11	METAL CHIP	2.2	5%	1/16W

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X1	1-781-759-21	VIBRATOR, CERAMIC (CHIP TYPE)	(16.9344MHz)
**********			
*	1-659-834-11	SUB BOARD	
		**********	
		< CONNECTOR >	
CN1	1-770-347-21	CONNECTOR, FPC 6P	
**********			
		MISCELLANEOUS	
		**********	
5	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	
201	X-3378-598-2	CHASSIS (OP) ASSY (including M901)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
⚠210	8-820-103-11	PICK-UP, OPTICAL KSS-720A/C-RP	
212	1-676-707-21	PICK-UP FLEXIBLE BOARD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
M903	A-3315-039-A	MOTOR SUB ASSY, LD (LOADING)	
**********			
		ACCESSORIES	
		**********	
	3-236-849-11	MANUAL, INSTRUCTION (ENGLISH,GERMAN, FRENCH,ITALIAN,DUTCH)	
	3-236-850-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, GERMAN,FRENCH,ITALIAN,DUTCH)	
	X-3378-490-2	CASE (PANEL) ASSY (for FRONT PANEL)	
**********			

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	X-3373-602-2	FRAME ASSY	
252	X-3381-148-1	SCREW ASSY (BS2), FITTING	
253	3-349-410-11	BUSHING	
254	3-232-419-01	COLLAR	
255	3-934-325-01	SCREW, +K (5X8) TAPPING	
256	1-465-459-21	ADAPTOR, ANTENNA	
257	3-233-644-01	SPRING, FITTING	
258	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	



REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2001. 12	New